A Clinical Lecture

ON THE

TREATMENT OF CERTAIN CASES OF CHOREA BY HYPNOTICS.

Delivered at the General Infirmary at Leeds,

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GENTLEMEN,—It will be generally agreed that the vast majority of cases of chorea can be safely cured, though perhaps not so speedily as we could wish, by the combined use of rest in bed, feeding and the administration of some drug, especially arsenic, in efficient doses. A very small minority of cases cannot be so treated to a successful issue. The cases which are refractory to, or unsuitable for this simple treatment may be divided into three classes: (1) Cases in which the disease, though never assuming a violent or dangerous form, persists for weeks or months or even for years in spite of treatment; (2) cases of such a grave character as to immediately threaten life by the violence of the neuro-muscular disturbance alone; and (3) cases which terminate fatally. It is with the second and third classes, and especially the former, that I propose to deal in this lecture. Danger to life is, as I have indicated, in the vast majority of cases of chorea practically non-existent. Dr. Gowers[1] puts the mortality at "certainly less than 3 per cent." Since 1880 there have been 212 cases of chorea admitted into the Leeds Infirmary, with six deaths, a percentage almost identical with that of Dr. Gowers; but the cases admitted to the hospital beds will, I feel quite sure, be only a small proportion of the total cases applying for treatment, the great majority being easily treated in the out-patient department. The cases admitted to the hospital will be only such as from their violence cannot be safely treated at their own homes. It is not easy to say precisely what element in any given case seriously threatens life and calls for unusual treatment, but the simultaneous or separate presence of—(1) great violence of the movements, (2) rapid wasting, (3) bedsores, (4) insomnia, (5) a high temperature, and (6) the rheumatic state, would, I feel certain, indicate a degree of severity of the disorder which may readily threaten life and call for immediate and vigorous treatment. My experience of these violent cases of chorea leads me to attach most importance to rapid wasting, the formation of bedsores and total insomnia. They are all three dependent upon the violence of the movements, and two of them, I feel strongly, are a certain means of killing the patient—namely, wasting and sleeplessness. As to the wasting, I would only observe this, that there is an exceedingly rapid and striking wasting or shrinking of the body in certain very violent cases of chorea, which, although dependent upon the disease, is frequently quite unaccounted for by the vigour of the movements or the inability to take food. It can, of course, only be met by abating the movements and feeding. The insomnia I am strongly inclined to regard as *the* index for purposes of treatment; and I am quite convinced that it is a most dangerous thing to allow choreic patients to continue for long periods without sleep, and especially so if there is delirium. We know that sleep is the natural means of arrest of the choreic movements, and in inducing sleep we are arresting that which tends by its severity to put the patient in danger.

The cases I wish briefly to narrate are all of them examples of severe chorea treated on this principle. We are now possessed of several efficient and safe hypnotics—viz., chloral hydrate, chloralamide, sulphonal and perhaps paraldehyde. Of these chloral hydrate is perhaps the most reliable, for there is no doubt that, given in sufficient quantity, it may be relied upon (like opium) to produce sleep; but it has some disadvantages. It is unpleasant to take and in administering it in large doses by the mouth to patients suffering from chorea this is not an unimportant point. It also occasionally produces vomiting and diarrhœa and, perhaps most important of all, it is a powerful cardiac depressant. In spite of all these drawbacks I am inclined to prefer it to chloralamide, which, although free from the disadvantages of chloral hydrate, is somewhat difficult to manage, and, it may be, even dangerous, from its comparative insolubility causing delay in its action. Chloralamide is an excellent hypnotic if we could be quite sure of its immediate absorption. The systematic administration of chloral hydrate in the treatment of cases of severe chorea is of course no new thing, but the recorded cases in which it has been used are so few in number that it may not be useless to relate to you five cases which have come under my care during the last few months, but before doing so I wish briefly to draw your attention to some of the observations already recorded. Professor Gairdner[2] in 1870 recorded a case of chorea occurring in a child eight years of age, in which repeated moderate doses of chloral hydrate were given. On a certain day, and entirely by misadventure, a dose of sixty grains was given. Symptoms of poisoning very soon followed, but at the end of twenty-four hours the patient awoke permanently relieved of the choreic movements, which had persisted in spite of treatment for seven weeks. In some of the cases I shall relate this sudden and complete arrest of the choreic movements by large doses of chloral was very well seen. In 1870 Dr. Carruthers[3] recorded the case of a girl, eighteen years of age, who had suffered from chorea for two years, in which he gave a dose of thirty grains of chloral hydrate to produce sleep, this being repeated daily for fourteen days with the most successful results. In the same year Dr. Russell[4] of Birmingham recorded a case of chorea gravidarum of five months' duration, which developed in its later stages an extreme degree of violence and was successfully treated by repeated doses of chloral hydrate sufficient to induce sleep. In 1877 Dr. Bridges[5] recorded two successful cases and refers to the very unsatisfactory effects upon patients of small doses, which are not sufficient to produce sleep; indeed, he seems to have thought—and I am inclined to agree with him—that chloral hydrate in small doses is not only useless but absolutely dangerous in cases of violent chorea. Until 1889 the use of chloral hydrate in severe or protracted cases of chorea had not attracted much attention, but in that year Dr. Bastian[6] published an important contribution on the subject, in which he recorded a case, admittedly somewhat anomalous in its features, treated by the induction of continuous sleep by means of chloral. He says that in the twelve years previously to 1889 he had treated eight or nine cases in this manner, and he goes on to define the class of cases for which such treatment may be advisable in the following words: "In all ordinary cases of chorea I never think of having recourse to it. With rest and very various kinds of treatment in the course of six to twelve weeks such cases recover. Then again, in the most acute and severe cases of chorea, in which the temperature is raised and the movements are violent and continuous, with or without delirium or maniacal symptoms, I have never yet tried this mode of treatment, nor should I recommend its adoption. It is, I think, especially applicable to a class of cases in which there is no fever and no heart disease, but where the movements are usually severe and continuous."

I wish to draw your attention especially to the limitations within which the treatment should be adopted, as laid down by Dr. Bastian, because I think you will see that most of these were overstepped in the cases which form the subject of my remarks. In three of them there was considerable pyrexia, in two acute rheumatism (one fatal), and in almost all delirium of greater rather than less severity. His lecture was followed by a further communication from Professor Gairdner,[7] in which he sums up his experience of chloral hydrate as follows: "(1) It sometimes succeeds in chorea absolutely where other remedies fail; (2) it can be depended upon, as a rule, in very severe cases to initiate a treatment which may be afterwards successfully carried out otherwise; (3) in such cases it has an almost absolute power of suspending or controlling spasm during the persistence of its deep hypnotic action and is therefore invaluable as a palliative (care being taken of course to avoid poisoning, acute or chronic); (4) this or other limitations will interfere with the curative action of the remedy in some inveterate cases; the failure of chloral hydrate in these cases being common to it and all other remedies."

[1] Manual of Diseases of the Nervous System, 1888, vol. ii., p. 563.

[2] THE LANCET, Aug. 3rd, 1889.

[3] THE LANCET, April 2nd, 1870.

[4] Medical Times and Gazette, vol. i. 1870, p. 30.

[5] The Practitioner, vol. xviii., 1877.

[6] THE LANCET, July 13th, 1889.

[7] THE LANCET, Aug. 3rd, 1889.

I will now read to you the records of my cases which are as follows:—

CASE 1. *Severe chorea; acute pneumonia; recovery.*—On Jan. 20th, 1892, I was asked by Mr. Woodcock of Beeston-hill to see a child five years old, who was suffering from acute violent chorea of four days' duration with signs of acute pneumonia at the left apex. The temperature was 103°. He had not slept for four nights and the movements were so violent that he could with difficulty be kept in his mother's arms. I suggested that five grains of chloral hydrate and three minims of tincture of digitalis should be given every two hours. After three doses of the mixture he went to sleep and awoke practically well. This is, I think, the youngest choreic patient I have seen. Both Mr. Woodcock and myself thought the child must die if sleep could not be obtained.

CASE 2. *Violent chorea and acute rheumatism; recovery.*—A girl aged thirteen was admitted to the infirmary on June 24th, 1892, and discharged well on Aug. 12th, 1892. The temperature on admission was 102°. There had been no previous attack of rheumatism or chorea. Twenty-one days previously severe acute rheumatism set in, to which was added seven days later slight choreic movements, which gradually increased in intensity and ultimately occupied the whole body. Five days before admission she was allowed to get up and after that the chorea became very violent. There was total insomnia and some delirium. On admission she looked very ill and was constantly tossed about by violent involuntary jerkings of the whole body. She complained much of thirst and was constantly shrieking, apparently quite involuntarily. The skin was moist and hot. An acute rheumatic condition of the right elbow seemed to inhibit the choreic movement of the limb almost entirely. The face was markedly affected, making talking exceedingly difficult and unintelligible; the pulse was 128; a loud whistling systolic bruit was heard at the apex and in the axilla, but it was impossible to say whether it was audible in the back on account of the violence of the movements. The next day she was put upon a water bed on account of abrasions caused by the movements, and it was with the greatest difficulty she could be kept upon it, owing to the extreme violence of the chorea which was now so great as to threaten life. She had not slept for nearly a week. She was ordered to take fifteen grains of chloral hydrate every two hours until sleep was induced. After the first dose at 10 A.M. she slept a little, but no continuous sleep was produced until 10.15 P.M., by which time—i.e., twelve hours—105 grains of chloral hydrate had been taken.—June 26th: Chloral hydrate was not required till 2.30 A.M. and was given at irregular intervals through the day until 11.15 P.M. (twenty-one hours), when ninety grains had been given. The temperature has fallen to 99°.—27th: The movements are still visible, but reduced to the vanishing point. The limbs are much wasted and there is a large effusion (rheumatic) into both knee-joints. She is quite sensible, but the speech is much affected. To-day she has been kept almost continuously asleep and free from movement by ninety grains of chloral in divided doses at irregular intervals.—28th: She is quiet and has slept well. Sixty grains of chloral hydrate have been taken.—29th: There is slight movement of the lips and arms. The feet are swollen and pit on pressure. The knees are less swollen, but still painful. The temperature is normal. Forty-five grains of chloral have been taken. On July 5th the chorea had ceased; ten days later she was allowed to get up, and on July 20th she was sent to the semi-convalescent hospital. She left for home on August 3rd, quite free from any manifestation of chorea or acute rheumatism, but with permanent cardiac disease. The following figures show the quantities of chloral hydrate taken in this case: June 25th (10 A.M. to 10.15 P.M.—12 hours), 105 grs.; 26th (2.30 A.M. to 11.15 P.M.—21 hours), 90 grs.; 27th (24 hours), 90 grs.; 28th (24 hours), 60 grs.; 29th (24 hours), 45 grs.; 30th (24 hours), 45 grs.; July 1st (24 hours), 30 grs.; 2nd (24 hours), 30 grs.; 3rd (24 hours), 30 grs.; 4th (24 hours), 30 grs.; 5th (24 hours), 30 grs.

CASE 3. *Violent chorea gravidarum; great delirium.*—A woman pregnant for the second time, aged twenty-three, was admitted to the infirmary, under the care of Dr. Braithwaite, on June 27th, 1892, transferred to me on July 22nd and discharged well on Sept. 10th, 1892. She was the mother of one child, born three years ago. There was no previous attack of chorea. On admission the movements were constant, but not violent, and were somewhat controlled by occasional doses (twenty grains) of chloral till July 14th, when they became much more severe and abortion was induced on the 15th. For some time afterwards the chorea abated. On the 21st the temperature rose to 104°. This was thought to be due to some intra-uterine condition and the uterus was accordingly washed out. After this the chorea again became suddenly more violent and Dr. Braithwaite was good enough to ask me to see her and she was transferred to my beds. At this time she was tossing about in bed with great violence, constantly shouting and was apparently delirious, taking no notice of what was said to her. Forty grains of chloral hydrate were ordered to be taken at once and to be repeated every two hours until sleep was induced. She fell asleep five minutes after the first dose (at 11 A.M.) and slept for an hour, after which she became noisy. The second dose was given at 3 P.M. and the dose was repeated at 6 P.M., 11 P.M. and 2 A.M. (July 22nd), making 200 grains in all. On July 22nd she slept nearly the whole day, and the choreic movements had ceased except in the face even when she was awake. The temperature was 97·6°. She looked very ill. No chloral was given till 3 P.M., when 40 grains were ordered.—July 23rd: To-day the temperature is 102·2° and the mouth and teeth are dry. From this date to August 18th (i.e., twenty-seven days) she was more or less under the influence of chloral hydrate or chloralamide. Chloralamide was substituted for chloral hydrate on August 4th, mainly on account of her general condition, and especially on account of the pulse rate, and there is no doubt that the pulse record showed a distinct improvement after this, for instead of being 120, 130 and 140 it fell quickly to 100, 90 and 80. On August 8th, for instance, on which day (twenty-four hours) she took 160 grains of chloralamide the pulse varied from 116 to 92, being at the latter figure at the end of the twenty-four hours. The chloral hydrate also seemed to purge her occasionally. The quantities of the hypnotic used may be taken as indicating her condition during all these twenty-seven days, especially in regard to insomnia and the choreic movements, the former being usually taken as the indicator for the amount of the hypnotic to be given. Her general condition during the earlier days of this period was one of extreme gravity, indeed most of us thought that she would die. There was marked wasting, constant delirium and, in the absence of the hypnotic, insomnia and chorea. In fact, it was quite clear that we were only repressing or smothering the disorder which at the first opportunity would clearly break out again and destroy her. We had to contend with during this time also incontinence of urine and fæces, with threatening bedsores, dry mouth leading to double parotitis, which fortunately did not suppurate, and severe mental disturbance whenever she was allowed to escape from the influence of the drug. Fortunately we never had much difficulty in feeding her. After she had been got thoroughly under the influence of the hypnotic the movements, though continually present whenever she awoke, were never allowed to become severe. They had not disappeared entirely until Sept. 1st, though from Aug. 18th to the 27th they were so few as to allow us to suspend the treatment. As an illustration of the tendency I have already noted of the choreic movements and delirium to return at the first opportunity, I may mention that on Aug. 28th she suddenly became delirious and so violent that she had to be held in bed. However, sixty grains of chloralamide were sufficient to subdue her, and on Sept. 10th she was allowed to go home, for all practical purposes perfectly well.

Chorea gravidarum is, I believe, generally regarded by those whose special business it is to deal with the gravid state as not by any means free from danger. The following shows the quantities of chloral hydrate and chloralamide used in this case:—July 21st (15 hours), 200 grs. chloral hydrate; 22nd (24 hours), 60 grs. chloral hydrate; 23rd (24 hours), 60 grs. chloral hydrate; 24th (24 hours), 20 grs. chloral hydrate; 25th (24 hours), 60 grs. chloral hydrate; 26th (24 hours), 40 grs. chloral hydrate; 27th (24 hours), 40 grs. chloral hydrate; 28th (24 hours), 60 grs. chloral hydrate; 29th (24 hours), 100 grs. chloral hydrate; 30th (24 hours), 60 grs. chloral hydrate; 31st (24 hours), 60 grs. chloral hydrate; Aug. 1st (24 hours), 60 grs. chloral hydrate; 2nd (24 hours), 100 grs. chloral hydrate; 3rd (24 hours), 110 grs. chloral hydrate; 4th (24 hours), 60 grs. chloral hydrate and 60 grs. chloralamide; 5th (24 hours), 120 grs. chloralamide; 7th (24 hours), 120 grs. chloralamide; 8th (24 hours), 180 grs. chloralamide; 9th (24 hours), 120 grs. chloralamide; 10th (24 hours), 30 grs. chloralamide; 12th (24 hours), 90 grs. chloralamide; 13th (24 hours), 120 grs. chloralamide; 14th (24 hours), 90 grs. chloralamide; 15th (24 hours), 90 grs. chloralamide; 16th (24 hours), 90 grs. chloralamide; 17th

(24 hours), 120 grs. chloralamide; 18th (24 hours), 30 grs chloralamide; 27th (24 hours), 30 grs. chloralamide; 28th (24 hours), 60 grs. chloralamide; Sept. 1st (24 hours), 25 grs. chloralamide; 2nd (24 hours), 20 grs. chloralamide; 3rd (24 hours), 15 grs. chloralamide.

Dr. Gowers says that the chorea of pregnancy is much more fatal than ordinary chorea, the mortality being 20 or 25 per cent., but adds that death is seldom due to the chorea alone, being usually due to the effects of delivery or abortion.[8]

CASE 4. *Violent chorea; death.*—A boy aged fourteen was admitted to the infirmary in the morning of Sept. 27th, 1892, with very violent chorea. He had acute rheumatism when eleven years old (i.e., three years ago), and ever since has been subject to jerky involuntary movements in the left arm when excited. At the beginning of August last (seven weeks before admission) he had a severe attack of acute rheumatism lasting fourteen days and three weeks later another attack equally severe, and a few days later movement in the left arm became more noticeable and he was sleeping badly, mainly as the result of the rheumatic pain. Two days before admission the movement in the left arm became much more violent and rapidly spread to the rest of the limbs and face. He ceased to sleep and became delirious, but took food well until the day before admission. On admission he tossed his limbs wildly about, contorting his face and rolling his eyeballs in all directions. He seemed delirious, but this was difficult to make out as his speech was almost unintelligible. As he tossed about he continually moaned, and occasionally screamed and foamed at the mouth. Occasionally he had paroxysms of hoarse violent coughing, but could not expectorate anything. His face was pale and puffy, and the alæ nasi moved during respiration. He looked exceedingly ill. There were no bedsores present. The temperature was 102·2°, pulse 136 and respiration 52. I saw him at 4.45 P.M. and directed that he should have thirty grains of chloralamide and that twenty grains should be given every two hours afterwards until continuous sleep was induced. The first dose was given at 5 P.M.; at 6.45 he fell asleep and the movements ceased, except when he was partially aroused by a paroxysm of coughing. His breathing also was irregular and the movements of his nostrils very marked. The temperature fell to 99·6°. The heart was examined at this time, but with great difficulty; its impulse was in the fifth space in the nipple line and was somewhat "slapping" in character. The cardiac dulness was increased upwards. Auscultation was impossible from the movement induced by examination and also from the intensity of bronchial noises all over the chest. After sleeping for forty-five minutes he awoke and the movements again became violent, so twenty grains of chloralamide were given at 8 P.M. He did not sleep after this, but the movements were more restrained. At 8.30 P.M. he was again violent and somewhat cyanosed; he struggled violently until 9 P.M., his pulse at that time being regular, large in volume and not compressible. He died quite suddenly at 9.5 P.M. We were at once concerned to know whether the treatment adopted had had anything to do with the fatal result. Apart from other considerations, the conditions found post mortem were quite sufficient to satisfy us that death, and probably sudden death, was inevitable under any circumstances. Dr. Chadwick made the necropsy and found that the pericardium contained sixteen ounces of blood-stained fluid and extensive adhesion of the serous surfaces by means of a thick reddish roughened layer of lymph, probably several weeks old. The heart weighed sixteen ounces and a half. There was valvulitis of the mitral and aortic cusps, that of the mitral spreading up towards but not reaching the aortic. There was old-standing thickening of both valves, with fresh vegetations upon them at the free margins; the liver weighed sixty ounces and a half and was of the "nutmeg" variety. In the left chest there were sixteen ounces and in the right chest eighteen ounces and a half of fluid. The brain weighed fifty-two ounces and a half, and presented no change of importance. I think that in all probability he had had pericarditis in his first attack of rheumatism three years before, that his pericardial cavity had been obliterated, and that a more recent attack of inflammation had led to softening of the old adhesion and fluid effusion. The serious nature of the heart lesion was unknown to us during life. Even if it had been known, the chorea was of such a violent character that I think we should still have adopted the treatment we did.

CASE 5.—On Oct. 10th, 1892, I was asked to see a girl aged seventeen in consultation with Dr. Dobson of Holbeck, Leeds. She had had subacute rheumatism some two or three years ago. She had had irregular jerky movements of the limbs (fidgets the parents called them), but up to Oct. 6th she was in no way seriously affected. On that day the movements suddenly became more violent and Dr. Dobson was called in. She had not slept for four days. There had been some delirium. The heart was clear. The movements made it difficult to examine her and impossible to take the temperature. She had practically been without food for three days. She was in the most violent chorea, pale and clearly wasting rapidly. (She had been delicate and pale for some time.) She was almost unable to speak on account of the face and lip movements, but was at the moment intelligent, though she rambled sometimes. The lips were covered with sordes and bleeding from rubbing. The elbows and all bone points were suffering from extensive abrasions, from constant and violent friction against the bed. Dr. Dobson thought she must die if the movements were not speedily arrested, and I quite agreed with him. I suggested that 20 grs. of chloral hydrate should be given every hour till sleep was induced. On Oct. 13th Dr. Dobson reported that from Oct. 10th at about 6 P.M. she had had 320 grs. of chloral, 120 during the first six hours, and that the chorea was completely suppressed. On Nov. 3rd she was convalescent.

Time does not permit me to dwell upon the special features of these very interesting and instructive cases, but I should like you to note how in all the cases where there was pyrexia the chloral hydrate acted, as it is well known to do, as a prompt antipyretic. In conclusion I have only to repeat emphatically Dr. Bastian's statement that, after all, chloral hydrate is no remedy for chorea. Sleep is the remedy used, and it is only as a safe and efficient sleep-producer that chloral hydrate exerts any beneficial effect upon the disease.

[8] *Op. cit.*, p. 563.

A CASE OF PYLOROPLASTY FOR NON-MALIGNANT STENOSIS OF THE PYLORUS; RECOVERY.

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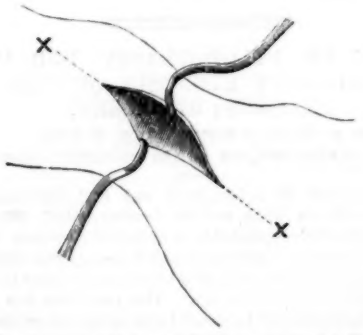
THE operation of pyloroplasty was first performed by Heineke in March, 1886, and in January, 1887, Mikulicz, quite independently, operated in an exactly similar way. Since then the operation has been repeated twenty-one times by various surgeons; but, so far as is known, no case has hitherto been reported in this country. The procedure has been markedly successful and appears to be an important advance upon Loreta's method of divulsion of the pylorus. I will first relate my case and then add a few comments.

Early in December of last year I was asked by Dr. Chepmell to see, with the view to operation, a single woman aged fifty-eight years. The history of the case was that for more than twenty years the patient had suffered severely from dyspepsia. Two years ago she passed through a severe attack of peritonitis, which appeared to originate, and to be most marked, in the upper zone of the abdomen. Since this illness her dyspeptic symptoms had been much worse. She had emaciated to an extreme degree; although above the average height, her weight was only 6 st. 10 lb. She complained of constant pain, chiefly situated to the right of the umbilicus and passing through to the back, which was at times very severe indeed. She was very hungry and thirsty, but the only food she could take with any comfort was junket for breakfast, the best part of a chop for lunch, and the breast of a partridge for dinner; all kinds of fluid made her sick, and she was greatly distressed by flatulence and had attacks of vomiting every few days in which large quantities of undigested food were brought up. The stomach was greatly dilated; at times it could be felt reaching to the pubes and a splashing sound could be easily elicited in it. The bowels were very constipated and little fæcal matter was passed. No tumour, lump or induration of any kind could be felt in the abdomen; the liver and spleen were normal; there was no ascites. The temperature was subnormal, 95°; the pulse 66, very small and easily compressible; the skin was dry and rough and the mucous membranes were pale. Lavage of the stomach and rectal feeding had been tried, but had not afforded

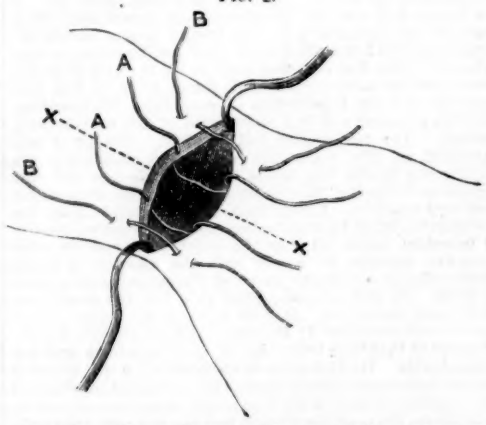
relief. The diagnosis that had been arrived at was non-malignant stricture of the pylorus or compression of the pylorus by adhesions resulting from the peritonitis two years ago. It was decided to explore the part and, if necessary, perform pyloroplasty, and in this advice Dr. Cayley, who had previously seen the patient, concurred. The patient was prepared for the operation by a thorough cleansing of the lower bowel by an enema, a large quantity of the hardened residue of meat suppositories being removed. The night before the operation the stomach was washed out with a watery solution of salicylate of soda (two and a half per cent.) and then by three pints of warm water. In fifteen minutes the patient complained of a humming noise in the ears, which quickly increased to a most distressing headache and a sense of the loudest noises. Some brandy was given by the mouth and a senna enema. She passed a bad night, but the pain was much better in the morning. On the day of the operation the only food given by mouth was one ounce of meat juice at 11 A.M., but at 9 A.M. and again at twelve noon an enema of four ounces of beef-tea and one ounce of brandy was given. The operation was performed at 1 P.M. on Dec. 14th, 1892, with strict antiseptic precautions. Chloroform was administered by Mr. Bailey and I was assisted by Dr. Murray and Mr. Penrose Williams. The patient was clad in flannel and was laid on a water-bed filled with hot water, and hot bottles were placed under each arm and between the thighs. The abdomen was opened by a median incision four inches and a half long reaching down to one inch below the umbilicus, and the pylorus was at once found. Some fine but rather tight peritoneal adhesions over the pylorus were divided. Having protected the parts around with pieces of flat aseptic sponge, an incision one inch long was made into the stomach close

FIG. 1.



to the pylorus and in the long axis of the stomach in the middle of its anterior wall. Passing in the little finger, the pyloric opening was found to be contracted to the size of a crow quill. The incision was then prolonged through the pylorus and on into the duodenum until it was two inches and possibly a little more in length. (Fig. 1.) A few arteries bled and were tied with fine catgut. The longitudinal incision was then held widely open by two blunt hooks placed in the middle of each side, and it was sewn up transversely with two rows of interrupted sutures. The first row was passed through the mucous and muscular coats only and the second through the serous and muscular coats only. (Fig. 2.) Fine silk was used for these sutures, which were placed a quarter of an inch apart and were threaded on fine curved round-bodied needles. The tags of the peritoneal adhesions were brought over the line of suture and fixed by one or two additional sutures. The peritoneal cavity was carefully cleansed and the external wound closed with silkworm gut sutures and dressed with double cyanide gauze held in place by strapping. The operation lasted just over an hour. The patient bore it well, showed no signs of collapse, and the pulse was as good at its close as at its commencement, a result largely due, it was thought, to the external heat that was applied. The patient's convalescence was comparatively uneventful, and only the more important items need be mentioned. The highest temperature recorded was 99·6° on Dec. 17th and, with few exceptions, it was normal or a little subnormal. The pulse rate—120 after the operation—fell to 92 the same evening and to 75 on the fourth night, and remained thereafter between 66 and 75. The wound was dressed on the tenth day and found to be entirely healed by first intention; the stitches were removed at this dressing. For the first week the patient was fed by nutrient enemata and suppositories were given alternately, and for the second week two or three nutrient suppositories were given every day. For the first day only small pieces of ice were given by the mouth; next day meat juice in small quantities was given; on the third day milk was added, and gradually the diet was improved, an egg being given on the eighth day, chicken on the ninth and a chop on the eleventh day. No difficulty was experienced in the digestion of this food; the appetite was good, food was enjoyed and it gave rise to no pain nor to flatulence. The bowels were troublesome. No solid motion was passed until the eleventh day, and for a fortnight after that a good deal of difficulty was experienced in securing the proper action of the bowels. The motion was soft and the difficulty seemed to be in exciting the rectum to contraction. Enemata of various kinds were resorted to, and with very little good effect. What did most good was a pill of assafœtida prescribed by Dr. Chepmell. The lodgment of motion in the rectum gave the patient a good deal of discomfort and even pain at times, but gradually the bowel recovered its power and within a month of the operation and ever since there has been no difficulty in this matter. The patient got up on the twenty-third day and returned home on the thirty-sixth day after the operation; she was then seven pounds heavier than on the day of the operation. The patient is now—five months after the operation—leading an active life and enjoying a freedom from pain and dyspepsia that she has not known for many years; her weight is increasing, she has a good colour and in all particulars may be spoken of as "well."

FIG. 2.



Remarks. — Non-malignant stricture of the pylorus is not a common disease, and from the relatively large number of operations for it which have been reported by Italian surgeons—notably by Loreta of Bologna—it appears to be more frequently met with in Italy than in this country. How far the disproportion is real as well as apparent there are no means of judging. Loreta's operation attracted a great deal of attention, and no doubt many of his patients went to him from distant parts of the Continent. The rarity of the affection explains the want of knowledge of its true pathology. In some cases the stricture follows the swallowing of corrosive fluids, in others the healing of an ulcer at the pylorus. These may be spoken of as "cicatricial strictures." There are other cases where there is no such explanation to be given; they are sometimes described as examples of hypertrophy of the pyloric muscle, at others as fibroid thickenings or degeneration of the pylorus. As a rare result of chronic gastritis great thickening of the submucous and muscular coats of the stomach, with contraction, is met with; in some instances the whole organ is involved, in others the change affects the pyloric part of the stomach only, and probably this change, limited to the pylorus itself, may account for some of the cases of simple pyloric stricture. In this particular instance the narrowing was limited to the pylorus. With the exception of the adhesions there was no change in the external appearance of

the stomach, nor did the incision into it reveal any obvious change in its walls. The attack of peritonitis suggests the possibility of gastric ulcer, but the slight extent of the peritoneal adhesions is against that view, and it is well known that chronic gastritis may lead to acute peritonitis, and that seems to have been the case here.

At the time I saw the patient it was evident that, unless relief was obtained speedily, she would soon sink from chronic starvation. Of the possible operations pylorectomy and gastro-enterostomy were at once rejected: pylorectomy as unnecessary and too severe and dangerous; gastro-enterostomy as less satisfactory than a widening of the narrow pylorus. Of the two methods of obtaining a wider pylorus, pyloroplasty was chosen as safer and more likely to be permanently successful than Loreta's operation of divulsion. Both operations entail incision into the stomach and subsequent suture of the wound; so far their perils are the same. But whilst pyloroplasty consists of a clean cut through the anterior wall of the pylorus, where it is most free from large vessels and under the operator's eye, the effects of divulsion are not seen and may be more or less than the surgeon intends and be inflicted upon important vessels. The statistics of Loreta's operation show cases of death from complete rupture of the pylorus on its posterior aspect and also from hæmorrhage; the "plastic" operation is entirely free from these dangers. A further most important consideration is the question of relapse. Divulsion has been followed by recurrence of the stricture and in many cases the operation has been repeated, and, looking to analogous cases, this is what one would expect. A sudden dilatation of the strictured urethra or rectum is well known to be followed by relapse unless special means are used to maintain the enlargement; all such special means are inapplicable in the case of the stomach. Stretching the pylorus may consist of over-stretching the muscular ring, analogous to stretching the sphincter ani—this may be entirely satisfactory in its result; on the other hand it may effect a tearing and stretching of fibroid or cicatricial tissue—a process known to be very unsatisfactory in many cases. Pyloroplasty, on the other hand, introduces new and presumably healthy tissue into the pyloric ring—tissue with no tendency to contract. This explains its superiority over Loreta's operation In this connexion it is interesting to remember the results obtained by the free division of the palmar fascia in Dupuytren's contraction. Not only is the shortened fascia lengthened, but the indurated tissue softens down and all signs of the malady may disappear. In some cases, too, of stricture of the urethra the complete division of the stricture tissue is followed not only by a widening of the urethra, but by a disappearance of the hardened tissue of the stricture. Indeed, all the evidence shows that division of a stricture (in any mucous canal) is *per se* a more certain method of cure than divulsion. In some situations divulsion or gradual stretching may be preferable on account of greater ease or of the avoidance of particular risks, such as hæmorrhage and septic infection; but for stricture of the pylorus divulsion is both more difficult and more dangerous than its division.

It will be noticed that the patient in the present instance suffered very severely from salicylic acid poisoning through washing out the stomach with a solution of that drug. I would caution others against this procedure. I did it because it is strongly recommended by high authorities, but I believe it to be unnecessary and I certainly shall not resort to it again; if more than a free flushing out of the stomach with warm water is called for, I should recommend the use of a solution of boric acid. It was noteworthy that the external appearance of the pylorus afforded no guide to the condition of its lumen; there was no narrowing or puckering of the part, nothing to indicate the great contraction that existed. In my case this might have led to error. One view was that the symptoms were due to peritoneal adhesions binding down the pylorus; adhesions over the pylorus were found and divided, and had I stopped there the patient would not have obtained any relief from the operation. It is worth notice how little shock was experienced from the operation—much less than I anticipated. This I attribute to the hot-water bed on which the patient lay and to the hot bottles between the thighs and under the arms. External warmth is one of the best means of preventing as well as of combating shock. In prolonged abdominal operations, and especially those connected with the stomach and intestines where shock is sometimes very severe, this means will be found very serviceable. It was remarkable how immediate was the relief from pain that the operation afforded. The dragging and tearing pain, which had never been altogether absent for years, was entirely lost immediately after the operation. Before it the patient could not stand upright with comfort and when sitting always had the feet raised on a high stool; afterwards this difficulty entirely disappeared. And the dyspepsia vanished as quickly and as completely as the pain.

I have found references to 23 cases of pyloroplasty (including my own case). Of these 16 recovered from the operation, 5 died from it and in 2 the result is not stated in the account I have seen. This gives a mortality at present of just under 25 per cent. Greig Smith states that the general mortality of Loreta's operation is "about 40 per cent." Of the fatal cases 1 died from peritonitis, 1 from collapse, 1 from exhaustion, 1 from gangrene of the lung and 1 from internal hæmorrhage—in this case the surgeon merely stretched the pylorus and then divided it, and the case is of no value in any comparison of the results of divulsion and pyloroplasty. Of the 16 cases that recovered 2 died shortly afterwards (two months and five months) from tubercular disease. Heineke's first patient was known to be well four years after the operation, Mikulicz's second patient was well one year and a half subsequently and Novaro's second patient was well two years later. Most of the other cases have been published at short intervals after the operations. The experience of the operation thus far does not show it to be attended with any peculiar or special danger. The cases referred to were operated upon by Heineke (2) Mikulicz (2), Bardeleben (3), Novaro (6), Lauenstein (2), Senn (2) and one each by Van der Hoeven, Carle, Koehler, Falleroni, Postempski and myself.

CLINICAL OBSERVATIONS ON HYSTERIA.

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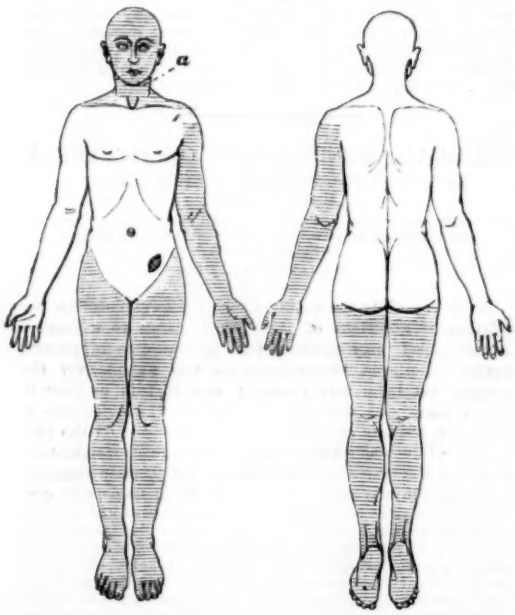
(*Concluded from p. 1137.*)

WITH regard to the cases of which I have notes on the relation of affections of the special senses to cutaneous anæsthesia[1] I may mention that in one case of general tactile anæsthesia tactile sensation was absent over the tongue, but taste was present; and that in another in which anæsthesia was most marked on the right side of the body, but was also present to a less degree on the left, it affected the whole tongue and buccal mucous membrane—taste was lost, there was loss of smell and common sensation (ammonia) in the right nostril, both visual fields were contracted (the right the most), but sensation was lost over the right conjunctiva only. Of fifteen cases of hemianæsthesia, in twelve there was loss of smell and taste, together with loss of common sensation in the nose and tongue respectively on the side of the cutaneous anæsthesia. In one case (right hemianæsthesia) common sensation was lost on the right side of the tongue and of the nose, whilst there was loss of taste over the whole tongue (most marked on the left side) and the sense of smell was absent in the *left* nostril; in another patient smell was absent on the side of the nose corresponding to the cutaneous anæsthesia, but there was no loss of sensation over the nasal mucous membrane; and in a third patient there was loss of sensation over one side of the tongue without any loss of taste. With regard to the eyes in the same fifteen cases and in two additional cases of hemianæsthesia, in five cases the conjunctiva was anæsthetic on the same side only as the anæsthesia and the visual field much more contracted on that side; and in three others there were anæsthesia of both conjunctivæ and contraction of both visual fields, both affections being most marked on the side of the cutaneous anæsthesia. In another six cases the conjunctiva was insensible on the anæsthetic side only, and both fields of vision were contracted, the one on the anæsthetic side the most so; in one there was contraction of both visual fields, the one opposite to the hemianæsthesia being the smallest, whilst the conjunctiva on the same side as the cutaneous anæsthesia was alone insensible; and in another the visual field was contracted on the side of the anæsthesia, whilst the opposite

[1] For affections of hearing in connexion with cutaneous anæsthesia, see Walton, "Deafness in Hysterical Hemianæsthesia," Brain, vol. I., 1883, p. 458-472.

conjunctiva only was insensible. In another case of hemianæsthesia, in which the loss of sensation did not extend to the face, the conjunctivæ and visual fields were normal though there was unilateral loss of smell and taste. In hemianæsthesia, then, there is generally but not always bilateral contraction of the field of vision, but no anæsthesia of the opposite conjunctiva. In six cases where the anæsthesia was of limited extent the affections of the mucous membranes and special senses varied. Where cutaneous anæsthesia was absent, in three cases both the visual fields were contracted, in one there was loss of smell and slight contraction of the field of vision on one side, and in another there were loss of taste over the anterior part of the tongue, left anosmia, and contraction of the right visual field. Patches of cutaneous hyperæsthesia are not uncommon in hysteria, and the patients are generally aware of their existence. In ten children there was in one a general condition of moderate hyperæsthesia of the whole cutaneous surface, and in another, a patient in the "hysterical state"[2] there was hyperæsthesia over the whole anterior surface of the trunk. These two patients afforded by far the greatest extent of surface

FIG. 5.



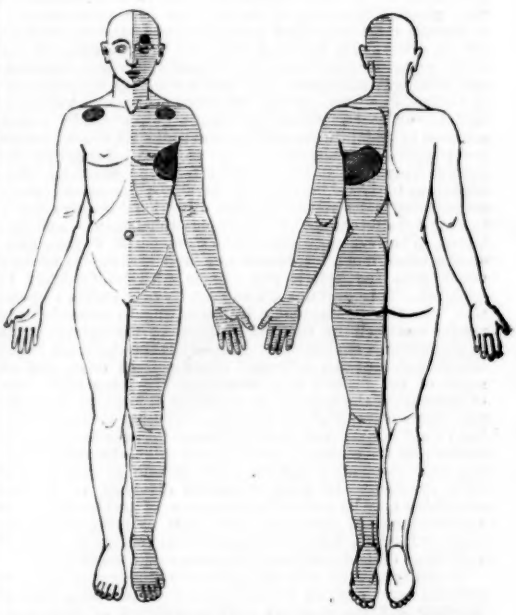
Hysterical paraplegia; hysterical attacks. *a*, Partial anæsthesia; right conjunctiva not affected. Legs: anæsthesia to pain, touch and temperature. Muscles not affected and "muscular sense" also intact.

affected with increased sensibility, in the other cases the areas being small, not exceeding a few inches in diameter and sometimes not being more than one or two inches. Of nine men, two showed hyperæsthetic areas, one just below the angle of the left scapula, and another (monospasm of right hand) over the anterior surface of the right wrist. Of thirty-four women there were patches of hyperæsthesia in sixteen. In five cases there were several such patches scattered over the body. In twelve of these patients there was also more or less cutaneous anæsthesia. In five cases the tender spots were situated over the breasts, and in another five over the ovarian region. Of the so-called "hysterogenic zones" I found three well-marked instances only out of all my cases—one in a man (over the dorsal spine), one in a boy (over the whole abdomen),[3] and another in a woman (over the back). Irritation of the areas gave rise in the boy to a convulsive attack and in the two other patients to a mild attack, consisting of the aura usual in each case, a stage of tonic rigidity and then a brief period of stupor or rather partial loss of consciousness[88]. In seven other women there were tender areas with less defined "hysterogenic" properties, which upon irritation produced a feeling of faintness or some other vague symptom.

Motor affections.—A greater or less degree of weakness in the legs is the most common form of the muscular weakness, apart from actual paralysis, which is so frequently found in patients suffering from hysteria. The patients complain of all degrees of this weakness, from slight paresis to complete paraplegia. Three of my cases were affected with hemiplegia, in two coming on after a convulsive seizure; in all three it was on the left side and was attended with left hemianæsthesia, which had the general characters described above. In one there was spasm of the left side of the tongue, so that it was protruded to the right, being curved during protrusion with the concavity towards the right. Sometimes a temporary hemiplegia of some hours' duration is observed after a fit.

The following case illustrates one type of hysterical paraplegia. The patient, a girl of eighteen, had had no previous illness except occasional attacks of hysteria, to which her mother was also subject. She was chlorotic and said that

FIG. 6.



From a patient who suffered three months previously from hysterical paraplegia. Anæsthesia most marked to touch and over face; least over abdomen and back. Black areas are hyperæsthetic.

she could not move her legs. The illness began after a fall on the back, which caused much pain, and since then inability to stand or walk had compelled her to remain in bed except for a day or so for the past three months. On examination there was tenderness over the spinal column, most marked over the lower dorsal and lumbar regions. The tenderness appeared to vary a little both in situation and intensity during the examination. There was slight lateral scoliosis, but no sign of disease of the vertebræ. Whilst lying in bed all movements of the legs were weak and she could not raise her feet off the bed. There was spasmodic contraction of the extensors of the knees, of the calf muscles and of the extensors of the great toes. The spasm could be felt to affect the flexors also and could be overcome by firm pressure. The muscles were well-nourished and firm. The plantar reflex was absent, but the other reflexes were normal. There was absolute anæsthesia below the groin in front and the gluteal fold behind, less complete loss of sensation over the face, neck and left arm, and concentric contraction of the visual fields. The muscular sense was preserved. When supported on each side she could just stand and shuffle along

[2] THE LANCET, Dec. 20th, 1890.
[3] THE LANCET, Dec. 20th, 1890.

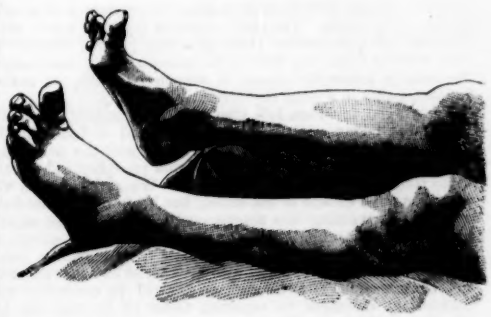
in a feeble way. The electrical reactions were normal, micturition and defæcation being naturally performed. The treatment consisted in tonics, a liberal dietary, a daily shower-bath, and massage and electricity to the affected limbs. She was made to get up and to try to walk. She steadily improved. She soon regained her power of walking, and when she told me she felt sure that she would never lose that power again she was sent home. Three months afterwards she attended as an out-patient, complaining of neuralgic pains in the head; otherwise she was much improved and had no sign of any paralysis. It was now found that the anæsthesia had disappeared from the right leg and right side of the face, but there were well-marked left hemianæsthesia and various areas of hyperæsthesia. (See Fig. 6.) The chief points in the diagnosis were the occurrence of hysterical attacks in the patient and in her mother, the presence of well-marked hysterical stigmata in the shape of anæsthesia, and the characters of the paraplegia, which corresponded to no form of organic disease of the spinal cord. Further, the extensor spasm of the great toe is, I believe, almost characteristic of hysteria. The treatment carried out had for its object the impressing upon the patient by a kind of suggestion in the waking state that she could walk and must make the effort to do so. Some of these patients require to be taught to walk, and do not make any rapid progress until they are literally shown how to carry out the movements of walking. She was also isolated from her friends. Without isolation treatment in such cases is very often futile. Lastly, it is a good plan not to let the patients return home until they are thoroughly convinced that they are permanently cured. When in cases of paraplegia of this type the patient has been in bed for some time the feet, either dropped from paralysis of the extensors (dorsi flexors) or extended from spasm of the calf muscles, may become fixed by adhesions in the position of extension, in which case it is necessary to break down the adhesions.

The next case is one of a rarer variety of hysterical paraplegia. The patient was a boy aged twelve without any family tendency to nervous disease. For about two weeks previously to my visit he had suffered from headache, giddiness and convulsive attacks which were attended with loss of consciousness and followed by a period of delirium. He had fallen several times in the fits but had never hurt himself. The onset of the illness was sudden and took place after some over-excitement. When seen on Dec. 24th, 1891, he was a healthy-looking boy; he could move his legs freely when lying in bed, but walked very feebly, dragging his left leg. There was no other paralysis, affection of sensation, nor of the special senses present and there was no sign of organic disease. Under the treatment suggested the boy at first improved, but subsequently he relapsed and lost all power of walking. On Feb. 9th, 1892, he was carried to the hospital as he could not walk. When placed on his feet he did not fall, but could not stand still, constantly shifting his feet. He could not walk, run or stand still, but on being placed on his feet went round and round the ward about twelve times, when he was stopped and put in a chair. He moved with a curious, quick, dancing step, in which the feet were brought rather forcibly to the floor. The movement is difficult to describe, but one of the nurses said the step was known in country dances as the "monkey hornpipe." Whether the eyes were closed or open seemed to make no difference to him. There were no other signs of nervous disease. The next day he was still entirely unable to walk or run, but could get along very well by jumping with his feet close together or by going on all fours, and was able to hop down the ward and back. In a few days he recovered the power of walking and running. This case seemed to correspond to the affection described by M. Blocq under the term of "Abasie-astasie,"[4] of which cases have since been described by Charcot,[5] Pitres[6] and other observers.

A striking feature of many of the cases, as in the one described above, is the loss of certain of the complex coördinated acts of locomotion and not of others. Thus the patient may be able to hop or jump, and yet be unable to walk or run. Just as under ordinary circumstances a man may be able to leap or dance, and yet never have learned to swim, so in this affection some of the coördinated acts already acquired appear to be forgotten or lost for a time. Each of these complex movements requires elaborate muscular coördination and is probably effected by a special nervous mechanism. Further, the greater frequency of the affection in childhood is on this supposition to be expected, for in the child the nervous mechanism has not acquired that degree of stability which frequent repetition of the movement ensures in the adult. The paths for nervous impulses are not so definitely marked out, and there is less resistance to irradiation of impulses along other channels than in the adult.

It may be worth while to point out here that, as in hysterical hemiplegia, so in paraplegia and monoplegia a cutaneous hemianæsthesia may be present. This hemianæsthesia may either coexist with loss of sensation over both lower extremities in paraplegia, or over the paralysed limb in monoplegia, or in other cases may be the only defect of sensation noted. Generally speaking, in such cases the anæsthesia is most profound over the affected limbs. The hemianæsthesia may be perfectly unilateral or absent over certain parts of the side affected. Thus in the first case of paraplegia given above there was loss of sensation over the left arm (incomplete hemianæsthesia) as well as over the legs; in a case of monoplegia of the right leg there was partial loss of sensation over the whole right side; so that a correspondence in the accompanying sensory affection can be traced in hysterical motor paralysis, whether this be of hemiplegic, paraplegic or monoplegic type, and may be taken as an indication that the same region of the central nervous system is involved in each form of hysterical paralysis, although clinically they appear to be so different; and, further, the character of both sensory and motor affections points to the cerebral cortex as the seat of the disturbance. Mention has been made above of a form of hysterical contraction of the great toes in the position of extension which is sometimes met with in hysterical paraplegia. Fig. 7 was taken from a photograph of a boy who suffered from (hysterical) flaccid paraplegia after a fall on

FIG. 7.



the back. This spasm has been described and figured by M. Gilles de la Tourette.[7]

The following remarkably persistent contraction of the left hand seemed, from all the circumstances of the case, to be of functional nature. (See Fig. 8.) The patient was a middle-aged woman. Thirteen years previously the left fore-finger was amputated for diseased bone and ten years ago she dislocated the left wrist. These injuries with the consequent deformity may have been instrumental in determining or suggesting the seat of the contraction. The left hand and arm had been weak and painful and the finger-nails dark in colour for some time, and she had also suffered from "fainting" fits. Contraction came on gradually in the fingers, and there was some general wasting of the arm muscles; sensation was unaffected. On examination the fingers of the left hand were contracted in position of flexion at all joints, the tips of the fingers and nails being forced against the skin of the palm, which was slightly ulcerated at the points of contact, and lay between the thenar and hypothenar eminences, which were hard and prominent. The hand deviated towards the ulnar side, with the wrist flexed and pronated. The tendons of the flexor carpi radialis and palmaris brevis were prominent. She could slightly extend the thumb, but could move none of the fingers: passive movement of them was painful. The muscles of the forearm and hand all reacted to both forms of electrical current and showed slight general wasting

[4] Sur une Affection caractérisée par l'Astasie et par l'Abasie: Archives de Neurologie, vol. xv., 1888.

[5] Leçons du Mardi, 1889.

[6] Leçons Cliniques sur l'Hystérie et l'Hypnotisme, 1891.

[7] Superposition des Troubles de la Sensibilité des Spasmes de la Face: Nouvelle Iconographie de la Salpêtrière, p. 126, 1889.

from disuse only. Superficial and deep reflexes, cutaneous sensibility, and special senses were everywhere normal. This contraction had lasted two years. She refused to enter the hospital in order that the hand might be examined under chloroform and did not attend again.

One of my patients, a girl aged fifteen years and a half, suffered from spasm of the right orbicularis oculi (pseudo-

FIG. 8.

paralytic ptosis), which came on after the extraction of a right upper molar tooth. The right eyebrow lay at a lower level than the left (distinction from paralytic ptosis: Charcot[8]); both eyelids could be felt to be spasmodically contracted. Frequently muscular spasm is associated with, or rather follows, pains in a joint (hysterical arthralgia).

A boy aged fourteen fell from a chair, striking his back. His illness began with pain, weakness and stiffness in the left hip, which slowly affected the knees and the other hip-joint. Grief at his mother's death from paraplegia about the same time aggravated his symptoms. When I saw him the pain was gone except in the knees, but he could not bend the thighs. In walking the thighs and legs were kept rigidly extended by muscular spasm, the lower extremities advanced by circumduction and the feet raised a little whilst being brought forward by bending of the trunk to the opposite side. On examination the thighs were rigid in extension and adduction, attempts to separate them or to flex the hip causing much pain. When the patient was lying down the legs and pelvis could be raised together like a rigid bar by lifting up the heels, and when let go they fell all in a piece. He could only sit on a chair by resting his buttocks on the edge of the seat and arching his body backwards. Standing with his feet together, however, he could jump off the ground to the height of about a foot. There was no sign of any disease of the joints or of organic nervous diseases. Reflexes and sensation were normal. He finally recovered after many forms of treatment had been tried during isolation in the hospital, but slight spasm did not entirely disappear for five months.

Another boy had spasmodic contraction of the shoulder and elbow muscles, coming on after a caning on the hand at school, and one woman suffered from rigid spasm of the spinal muscles, so that the body was bent over to the right, and there was marked curvature of the spine towards that side.

The diagnosis from organic disease in these spasmodic affections is often much aided by the attitudes and gait of the sufferers. In the foregoing cases of paralysis and spasm the frequent occurrence of some antecedent injury in the neighbourhood of the part subsequently affected will have been noticed.

Hysterical rhythmical spasms and tremor may be classified for clinical purposes, according to their distribution, into (1) general, including "hysterical chorea," (2) hemiplegic and (3) monoplegic or localised, the latter including spasmodic movements of a whole limb or part of it, or of individual muscles. The character of the movements themselves, the fact that they often first appear after a convulsive attack, their hemiplegic distribution in some instances and the presence in many cases of hemianæsthesia and unilateral affection of the special senses would seem to point to the cortex as the seat of the functional disturbance. An instance of hysterical chorea occurred in a boy aged fourteen, who had suffered six months previously from aphonia and pain in the stomach. The present illness was of one month's duration. On admission he appeared to be nervous and there were involuntary purposeless movements in all his limbs, most marked on the right side; they were increased by observation and were occasionally violent. When sitting in a chair he would suddenly be jerked out of it, his body being swayed backwards and forwards and his arms agitated by strong muscular contractions; after a time he would suddenly spring back on to the chair. When in bed sudden contractions of the muscles occurred by which his body was moved from one side to the other and his limbs were forcibly jerked about. He could feed himself, but on two or three occasions he had upset his food. The movements ceased during sleep. He was given a shower bath every night and morning, with general faradaism and tonics internally, and was discharged cured on Dec. 29th. On Jan. 29th following he returned with a relapse of his complaint and was readmitted. He was well-nourished and looked healthy. At this time the spasms consisted of very rapid contractions of the muscles, obscurely rhythmical in character, several—from ten to twelve—shocks rapidly succeeding each other, followed by slower and stronger ones, with occasionally an intermission of from two to three seconds' duration. The muscular contractions exactly resembled those which follow isolated faradaic shocks and occurred about two or three times to the second. At first the contractions were confined to the triceps muscle on each side, with an occasional contraction of the biceps, but in the course of examination they spread to the other muscles of the forearms and to the shoulders (shrugging movements); the left forearm was spasmodically supinated and carried behind the buttock and the left foot was strongly adducted. The spasms were not increased by voluntary movements and ceased during sleep. There was no rigidity or persistent muscular spasm; the muscles of the face and eyes were unaffected. The pharyngeal reflex was absent and there was some loss of sensibility over the pharynx and conjunctivæ, otherwise sensation was everywhere normal and there were no other signs of nervous disease. The spasms stopped shortly after admission and there was no subsequent relapse. The chief differences from ordinary chorea in the second attack were the localisation of the spasms and their remarkably sudden, shocklike character, which has caused the name of "electrical chorea" to be given to this affection. One may add the influence of the treatment adopted, which would probably have aggravated true chorea.

The following are instances of hemiplegic and monoplegic types:—

A girl aged eighteen complained of constant spasmodic movements of the right side, which only ceased during sleep. They consisted of (1) flexion of the forearm at the elbow; (2) flexion of the fingers, the thumb being fixed upon the palm under the fingers; followed by (3) extension of the forearm. At other times the hand was alternately pronated and supinated. Movements of extension of the leg with dorsiflexion of the foot alternated with those of the arm. There were also incoördination of voluntary movements in the arm and leg and occasional twitching of the right side of the mouth. She had right hemianæsthesia (not profound), contraction of the visual fields, loss of sensation over the right conjunctiva and right-sided anosmia and ageustin. She was cured a few days after admission.

Another girl, who had previously suffered from paralysis of the right arm, right hemianæsthesia and aphonia, suffered from distinctly rhythmical alternating flexion and extension of the right forearm, wrist and fingers. She also recovered quickly, and, speaking generally, these cases are more amenable to treatment than those of fixed spasm.

Functional affections of the muscular mechanism of the respiratory tract are not uncommon. They may affect inspiration or expiration alone or both together, with or without involvement of the laryngeal muscles. Attacks of violent and long-continued yawning, sighing and hiccough occur. Occasionally patients appear with simply increased

[8] Archives de Neurologie, May and June, 1891.

rapidity of the respiratory movements. There are from thirty to forty or even sixty respirations in a minute, and this may be maintained for a long time. In some cases there is no local cause, the larynx, lungs and heart being perfectly sound. In others the respiratory disturbance is excited by a slight bronchial catarrh, this being altogether out of proportion to the extreme rapidity of respiration and insufficient under ordinary circumstances to cause any disturbance of the respiratory rate.

One of my patients, a girl aged nine, suffered from inspiratory spasm which came on after a fright. At regular intervals there was a contraction of the diaphragm, which gave rise to a deep sob and was accompanied by slight associated movements of the mouth and the nares. The spasms occurred quite regularly twenty-four times a minute; they were painless. The mother stated that, except during sleep, they had never ceased for four months. The child had latterly become weak and languid, was listless and disinclined for any exertion. There was no anæsthesia or hyperæsthesia. The case shows the importance of isolation in treatment of such affections, for the spasms ceased on the day following her admission into the hospital.

Hysterical cough generally consists of a loud, hard, noisy or barking cough, either constantly repeated or paroxysmal. The different varieties are indescribable, but in one remarkable case in a child aged twelve each spasm of "cough" consisted of a loud noise, repeated spasmodically four or five times with expiration, and partly of an articulatory noise made in the throat, harsh, rasping or sawing in character, and so loud as to be heard over the whole house. The attacks essentially consisted of one long inspiration followed by four or five expirations. The child held her hand before her mouth and did not appear distressed for breath, nor did she change colour. Whether these functional affections of the muscles of phonation and respiration should be strictly called hysterical is doubtful. In some respects they would seem to come under the category of hysteria, but in others to be more properly classed under the so-called habit-spasms. Spasm of the adductors of the vocal cords seems to be rare in hysteria.[9]

Tremors of different kinds may occur in hysteria, and may be general or affect one limb only.[10] In the following four cases the tremor was marked and was not increased on voluntary movement. In several other patients there was fine tremor of the hands when they were extended, but this was attributed to neurasthenia and is met with under so many conditions that no special stress was laid on it.

In the first patient, a servant girl aged twenty-four, the tremor was markedly increased by voluntary movements, but differed from that of disseminated sclerosis in continuing (1) during rest and (2) after the object of any given voluntary movement had been achieved. The illness began with headache, general weakness, giddiness, nocturnal hallucinations, followed later by two convulsive attacks, after which tremor of the legs came on and prevented her from walking. On admission she was healthy in appearance, but looked anxious. She could not stand unsupported and when lying down could not lift her legs off the bed or bend her knees, but could move her toes a little. The arms were also weak, but all the muscles were well-nourished and firm, without undue rigidity. Plantar reflexes were absent; the other reflexes were normal. Whilst lying down a constant oscillating to and fro tremor affected both arms and when she sat up extended to the muscles sustaining the head and neck and in less degree to those of the trunk. The tremor was amplified by voluntary movement; in drinking she spilled the fluid from the violence of the movements; further, when the desired object of any action had been attained the tremor still continued. Clonic spasm affected the leg muscles on standing, so that if not supported she fell; there was a coarse tremor of the tongue and constant nictitating spasm of the eyelids; there was no nystagmus, or any difficulty in speaking or swallowing. Slight inward strabismus of the left eye had existed from childhood. Tactile sensation was lost over the whole cutaneous surface, and there was in addition analgesia over the legs alone. Taste was deficient and there was right anosmia. It is sufficient to say that the tremor gradually decreased and finally disappeared sixteen days after admission.

A girl aged eleven had suffered from weakness, depression of spirits, night terrors, somnambulism and headaches for six months and from tremor of the limbs for two. Four brothers and sisters had died from convulsions in infancy. She was anæmic and thin, but highly intelligent. A fine, rapid, oscillating tremor affected both arms and legs and was most marked in the arms. When she used her arms there was also tremor of the head and neck. The trembling was more marked if she became agitated and only disappeared during sleep. There was no sign of organic disease and with a bromide draught at night and general tonic treatment she recovered in a few weeks. In another girl, aged fifteen, a fine, rather jerky, slow tremor was limited to the arms, was present during rest and not increased by movement.

In the case of a healthy young farm labourer aged twenty-two the tremor bore a curious resemblance to that of a commencing case of paralysis agitans. It had appeared without any assignable cause and had lasted for two years, gradually getting worse. When he came to the hospital there was no sign of any lesion of the nervous centres or peripheral nerves. The tremor was limited to the right hand and forearm and consisted of a fine rapid to-and-fro movement of the hand and forearm, with movements of the thumb and fingers like that of paralysis agitans, and the hand was maintained by slight muscular spasm in the position assumed for holding a pen. The right hand and arm were weaker than the left. The tremor continued during rest and was unaffected by movement. There were no other signs of disease, and after faradaism of the limb daily for one week he completely recovered. A case was shown at the Medical Society of London by Dr. Ormerod[11] of a woman aged twenty-nine, who had tremor of the hands and tonic contraction of the flexors of the fingers and toes. The tremor developed after a fit and had existed over six months. Before the contractions the fingers shook and had somewhat the appearance of paralysis agitans.

Pembroke-road, Clifton, Bristol.

[9] See a case in Brit. Med. Jour., vol. i. 1891, p. 1173.

[10] For M. Charcot's classification of hysterical tremors see Clinique des Maladies du Système Nerveux, 1892, p. 76.

[11] Brit. Med. Jour., vol. ii. 1887, p. 1216.

[1] Brit. Med. Jour., vol. ii. 1887, p. 1277, and vol. i. 1889, p. 651.

ANKYLOSIS OF THE JAW:

RESECTION OF JOINT ON ONE SIDE, COMPLETE RELIEF RESULTING.

BY ARTHUR E. BARKER, F.R.C.S. ENG.,

PROFESSOR OF CLINICAL SURGERY AT UNIVERSITY COLLEGE AND SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

THE operation to be described is practically the same as that advocated many years ago by Professor Humphry of Cambridge and which has been successfully performed by himself and others since, notably in two most interesting cases published by Mr. F. Page[1] of Newcastle; but in spite of the excellent results obtained in these cases, and to judge by what has been uttered and written, there seems still to be considerable doubt as to which of the several operations for ankylosis of the jaw is really the best. In the hope of helping in the solution of the question the following case is recorded.

A young lady aged fifteen was sent to me from New Zealand by my friend Mr. Anderson of Christchurch in October, 1891, with a request that I should, if possible, relieve her by operation of a condition of ankylosis of the jaw which was causing her serious inconvenience. When five years old she had fallen down a staircase about fifteen feet and hurt in some way the left side of the jaw, which, however, was said not to have been fractured. Stiffness and pain were felt in the joint for some time and then passed off and no more was thought of the injury until comparatively recently, when relatives who had not seen her for some time were struck by the deformity of her jaw and the whole left side of the face. The latter appeared much smaller than the right side, and the chin was tilted to the left, as was evidenced not only externally but by the lower incisor teeth, which were at least a quarter of an inch to the left of their fellows in the upper jaw. Besides this, the movements of the jaw were becoming limited, and at the time Mr. Anderson wrote, in July, 1891, the incisor teeth could only be separated about a quarter of an inch. When I first saw the patient, in October, 1891, the teeth could hardly be forced apart even a quarter of an inch, and there was no lateral movement. A photograph (from which Fig. 1 was engraved) taken at this time shows the maximum amount

of separation and also the deformity of the face. This was plainly due to arrest of development of the jaw on the left side, chiefly affecting the ascending ramus. The latter was three-quarters of an inch shorter than its fellow. The left maxillary articulation was much enlarged, apparently by a mass of bone thrown out around it; the right appeared quite normal to the touch and to the eye. The patient appeared to be in excellent health, but was very seriously inconvenienced by the closure of the jaws and consequent inability to masticate food. It was found after due trial that no forcible separation of the jaws could benefit the patient; it was also clear that any operation on the articulation would necessitate the removal of a considerable growth of new bone. In selecting the particular operation to remedy this condition I was moved to aim at formation of a new joint in the old situation by the following considerations. The patient was young and healthy and the processes of repair ought to be as excellent in this as in the case of other resections of joints. If successful it certainly would give the most perfect result of any both as regards function and minimum of deformity. This operation could be done with perfect asepsis, seeing that the wound would communicate in no way with the mouth and would be completely under control externally. The interference with the branches of the facial nerve would be very slight, with a short horizontal incision immediately over the

FIG. 1.

Before operation.

joint. In a word, the operation on the diseased joint itself appeared more scientific in every way than section of the bone lower down or from the mouth.

On Oct. 9th, 1891, the following operation was performed. Every possible precaution having been taken to secure perfect asepsis, I first made a one-inch incision immediately below and parallel to the zygoma. This was only carried through the skin and fascia and then with forceps and elevator I separated the soft tissues upwards and downwards, without cutting, until the large rounded mass of bone involving the joint was cleanly exposed. I avoided cutting the soft part at this stage of the procedure in order to spare the branches of the facial nerve as far as possible. The mass of bone exposed appeared to weld the two parts of the joint together almost completely. This I removed with the aid of a chisel and mallet until the neck of the bone was visible. This was much hypertrophied, being about two-thirds of an inch thick. In order to obtain free movement it was now necessary to chisel away the neck of the bone freely and also the eminentia articularis and the bone around. Part of the interarticular cartilage was found, but was atrophied. When all the osseous matter which impeded the play of the jaw had been removed from about the articulating surfaces, and the latter had been cut clean, the wound was dried out and closed carefully with fine silk, a strand of the same material being left between the edges for drainage. A dressing of sal alembroth gauze completed the operation, which had been tedious on account of the care which had to be exercised to guard important structures from injury during the chiselling, especially the facial nerve. No vessels required ligature and the bleeding during the whole operation was insignificant.

There is little to record about the convalescence except that it was uninterrupted. The wound healed without any suppuration and the stitches were removed on the 16th, the eighth day after operation. The face on the left side was a little swollen for some days, but was not very painful. The temperature never rose above 99·8° for the first three days, and after this it was almost always subnormal. There was slight paresis of the inner fibres of the left orbicularis palpebrarum muscle, so that the patient could not quite close the lid on that side; but after a little time this grew daily less and less, and finally the muscle quite recovered itself at the end of some weeks. No attempt was made to force or keep the jaws apart at first by gags &c., and the patient was not asked to open the mouth in order that the new joint should have perfect rest during the healing of the soft parts at the seat of operation. I find in the notes, however, that on the seventh day the patient could easily open the mouth half an inch, and daily after this she

FIG. 2.

moved the jaw with less and less trouble. On the fourteenth day I inserted a gag I had made of two blocks of pure rubber, supported between the molar teeth by stout silver wires and a loop of silver wire round the cheeks at each angle of the mouth. This gag I found to work admirably, and it could be worn by the patient at night without discomfort. In the course of a few days I cut thicker blocks of rubber as the jaw was becoming daily more movable, so that by Nov. 6th the distance between the incisor teeth on *voluntary* movement was one inch. By stretching with the fingers between the teeth I could increase the separation, but this I rarely did, preferring not to strain the new structures too much. The patient was now encouraged to try daily how much more the incisor teeth would separate than on the previous day, and I gave her a graduated gauge of wood soft enough to show the marks of the teeth when inserted between them with the mouth opened to its full stretch voluntarily. This gauge showed at the end of a couple of months that the distance between the incisors was an inch and a quarter and with a little help an inch and five-sixteenths, and it had remained so up to the time of last hearing from Mr. Anderson on Dec. 17th, 1892. I cautioned the patient to continue to use the gag at night for several months after her return to New Zealand in February, and this she did; but writing in June, 1892, Mr. Anderson said she could do without it. All the movements, vertical and lateral, were free, the separation between the incisors remaining at one inch and a quarter. I find that

in a healthy young girl of about this age the distance between the incisors with the mouth wide open is on the average not much more than this, so that this patient may be said to have recovered almost the normal amount of movement in the jaw. This is well seen in Fig. 2 (engraved from a photograph taken in November, about six weeks after the operation). Fig. 3 (engraved from another photograph) shows the patient with the rubber gag *in situ* which was worn at night. If it should be proved by further experience that the movements of the jaw remain free after this operation there can be little doubt that it will be preferred in the future to all others. It has the manifest advantage over all operations from within the mouth that it can be kept from suppurating. This, besides diminishing immediate risk, must improve the prospect of ultimate free movement. Experience of aseptic excisions of joints in recent years teaches us that we have a far better prospect of restoration of function than in the days when suppuration followed excision in most cases. Again, the advantage of this method over that which aims at establishing a false joint at the angle of the jaw must be obvious, inasmuch as the new joint is made as nearly as possible at the seat of the natural articulation, and, consequently, the functions of the muscles and the jaw itself are as nearly as possible restored. The chief risk of the operation now described is that the facial nerve may be injured, but, as is proved by this and other cases, notably by those recorded by Mr. F. Page, this can be avoided by care and by a horizontal incision. The slight transient paresis of the orbicularis muscle which followed the resection in the above case was probably due to mere stretching of some nerve filaments which soon recovered themselves. Writing on Dec. 17th, 1892, Mr. Anderson says that the scar can hardly be seen. The patient can now masticate food as easily as anyone with normal jaws. She can open and close the mouth to the widest extent without pain or inconvenience. The disfigurement noticeable before operation is far less marked now owing to development of the muscles. The interval between the central incisors is $1\frac{5}{8}$ in. with the mouth open, and the interval between the upper middle incisors corresponds to the middle of the right central lower incisor with the mouth closed.

FIG. 3.

After operation.

Harley-street, W.

LIVERPOOL UNIVERSITY COLLEGE.—The governors of this college have resolved that the senate should invite the co-operation of local scientific and learned societies in obtaining the consent of the Mayor and Corporation to the proposal to hold in Liverpool the meeting of the British Association in 1895.

A CASE OF COMPOUND FRACTURE OF THE SKULL FROM GUNSHOT WOUND.

BY W. H. BROWN, M.R.C.S.

ON Sunday morning, Nov. 17th, 1892, I was called about 11.30 A.M. to a case of accidental shooting. On arriving shortly afterwards, I found the patient, a lad aged seventeen, lying comatose on the floor with a large irregular wound just below and to the side of the left frontal eminence. Bleeding had been rather profuse, but was at this time stopped. There was no other wound than the one referred to, which measured perhaps two inches from before backwards and one inch transversely. On questioning (at the time and afterwards) I learnt the following particulars: About two hours before I saw him the lad was watching another boy manipulate a revolver, which neither believed to be loaded. This other lad was sitting and the patient was standing, leaning towards him, when one of the chambers went off inflicting the wound mentioned. The injured lad did not fall or become unconscious at first, but was able to sit up and walk for a quarter of an hour, during which time efforts were being made to stop the bleeding. During this interval also the lad who was handling the revolver assures me that he picked out the bullet, which was lying loose in the wound. About a quarter of an hour after the occurrence unconsciousness gradually supervened (from fainting, the friends thought) and at the time I saw him he was completely comatose, with slightly stertorous breathing, and the pupils dilated and unequal, not reacting to light; he could not be roused to respond to a question, but when interfered with he occasionally moved the right arm and leg, but not the left. The forefinger was wounded, the ball having grazed it before reaching the head. On introducing a finger into the wound I felt the sharp edge of a hole in the skull. Having covered the wound with a piece of dry salicylic wool, I had the boy removed at once into Maffra (six miles) and sent for assistance. I was able to operate about 4.30 P.M., the patient having remained in much the same condition. Chloroform was not required, on account of the coma. On enlarging and opening up the wound an elongated hole was found in the skull, running from before backward, its width being about equal to the thickness of the conical bullet, and the length about one inch and three quarters. The edges were sharp and not sloping, and loose depressed bone could be felt deep in at the lower side. A one-inch trephine was applied immediately above this hole; on removing the button of bone there was no difficulty in taking out with the elevator and forceps one large piece and several smaller pieces of depressed bone, the fracture of the inner table being much more extensive than that of the outer. All depressed and loose bone having been removed, it was found that the coma still continued unrelieved. The dura mater bulged markedly and could not be seen to pulsate. An incision of about three quarters of an inch was therefore made into it on a director. From this issued a small quantity of bloodclot and disorganised brain matter. The edges of this incision gaped and were not drawn together in the hope that the intra-cranial pressure would gradually complete the extrusion of the clot pressing on the brain. The skin flaps were brought together with silver sutures, a drainage-tube being inserted beneath them. The wound was loosely dressed with a large dry pad of salicylic wool. Very soon after incision of the dura mater the coma seemed to be somewhat relieved; the breathing became better and the patient winced distinctly when the stitches were put in. Antiseptic precautions during the operation consisted in the frequent irrigation of the wound with 1 in 2000 sublimate solution. At 7.30 P.M. he was distinctly better, but very drowsy and could be roused. Paralysis seemed nearly complete in the left arm and leg; there was also very marked ptosis of the left eye, with slight left facial paralysis. He did very well that night, but the next day (a very hot one) the coma deepened again so that in the afternoon I was in doubt as to whether I should reopen the wound; it had been dressed in the morning. However, after six grains of calomel had been taken and ice had been applied to the head his condition improved and from that time he did steadily well. The temperature was never 100° F.; the wound healed well, though with a good deal of suppuration. There was never any hernia cerebri. His mental condition improved slowly, but for more

than a fortnight he was extremely drowsy, sleeping day and night when left alone. The paralysis of the left arm and leg and ptosis, which were at first almost complete, gradually disappeared and were quite gone six weeks after the accident. For two or three days after the accident I could obtain no knee-jerk on either side; the right side was the first to return, and the left only came back some days later. I did not examine his eyes until he was nearly well. There was then no difference between the discs and nothing abnormal in either. Seven weeks after the accident he was perfectly well.

Remarks.—There seem to me to be two noteworthy points about this case. 1. The action of the bullet. I cannot yet understand how a large conical ball (0.450) projected with such force could inflict such an injury and then be found lying loose in the wound. No doubt its incidence on the skull was at a very acute angle, but then one would expect it to travel onwards after this slight resistance. I saw the ball; it had a deep notch in it transversely and was otherwise altered in shape; the apex was not flattened. 2. The unusual disposition of the paralysis on the same side as the lesion. I am puzzled as to the cause of this and should be glad to receive any suggestions. From the delayed onset of the coma in the first instance it seemed as though its cause were probably intra-cranial hæmorrhage—no doubt subdural, for it was only after tension was relieved by an incision into the dura mater that the coma was relieved. Yet surely it is not likely that hæmorrhage caused in such a way would take place chiefly or largely over the hemisphere of the sound side. Could the *contrecoup* hypothesis be applied in any way in this case? I may say that there was not any paresis at all (as far as one could judge) on the right side.

Maffra, Victoria.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

A CASE ILLUSTRATING THE BENEFIT OF ASPIRATION IN HYDROTHORAX.

BY CECIL F. BEADLES, L.R.C.P. LOND., M.R.C.S.

IN THE LANCET of March 25th last Dr. Hale White reported a case of chronic tubal nephritis on account of the associnted hydrothorax, the point of special interest being the exceedingly rapid accumulation of a large amount of fluid after repeated removal by aspiration. Only very transitory improvement followed in that case. The following case is of interest as illustrating the beneficial result that may be obtained from aspiration of the chest where much fluid exists in the pleural cavities. It was one of granular contracted and cystic kidney (probably secondary to large white kidney) accompanied by an unusual amount of pleural effusion, giving rise to urgent symptoms.

A woman aged forty-six came under observation on Jan. 17th, 1890, for dropsy of two months' duration. There was no history of scarlet fever. She suffered much from dyspnœa. There was a mitral systolic murmur and the urine contained a large quantity of albumen. By the early part of February she was free from dyspnœa and the œdema of the legs had entirely disappeared. She was able to get about till July, when the dropsy returned and her breathing became short, but she did not lay up until July 11th. During the preceding two weeks she had passed little urine (which was thick) she had suffered much from palpitation, and she could not sleep. She now suffered severely from dyspnœa and palpitation. On examination signs of fluid were detected in both sides of the chest, being most marked on the right side. The heart sounds were churning in character and the pulse was 112. The liver dulness extended lower than normal; there was no ascites, but considerable anasarca of both legs existed. The urine was acid and contained a large amount of albumen, the specific gravity being 1012. On July 14th altered percussion note was noticed and diminished breath sounds were found to extend half way up the vertebral border of the scapula on the right side. At the left base there was dulness, but it was less extensive. At 5 P.M. the patient had a severe attack of dyspnœa, with a weak pulse, and an aspirating needle was introduced on the right side and fifty ounces of clear straw-coloured fluid were drawn off by means of an exhaustion bottle. The dyspnœa was at once relieved. The next day all the physical signs had improved and the dropsy had greatly diminished. On the 17th she had a slight attack of dyspnœa, which was relieved by means of a mustard poultice. The patient continued to improve under a mixture containing digitalis, nitro-muriatic acid and sulphuric ether, so that by Aug. 13th there were only slightly impaired sounds to be detected at the right base, there was no œdema of the legs, and the urine contained merely a trace of albumen.

The patient again came under observation on Oct. 17th, 1890. She had been well till a month before this date, when her breathing became short and her legs much swollen at times. During the previous fortnight she had had some attacks of dyspnœa. When seen she had some difficulty in breathing. There were dulness and absence of breath sounds at both bases, but more especially on the right side again. Both legs were greatly swollen. The urine was clear, the specific gravity was 1010, and the albumen one-third. On the following evening she was seized with severe dyspnœa and her pulse was extremely weak. The right side of the chest was aspirated and eighty-five ounces of clear fluid were drawn off. The breathing was at once relieved and the pulse improved. On Oct. 20th she stated that she had been unable to sleep during the night owing to severe dyspnœa at times. The temperature was 100°; the pulse 120. The feet were slightly swollen. A number of severe attacks of dyspnœa occurred during the day. At 7 P.M. on the same day it was noted that the fluid in the left side of the chest had apparently much increased since the morning. A needle was introduced into the left side and twenty-three ounces of fluid were removed, but all was not allowed to drain away. At 10 P.M. there was another attack of dyspnœa. On the following day much pain was complained of in the side and the difficulty in breathing continued; the pulse was very weak, 140, and slightly irregular. After this the patient improved to some extent, the pain disappeared, the pulse became good, 100, and the albumen in the urine was reduced to less than one-sixth on Oct. 25th. Four days later she had a cough, which continued for a few days. On Nov. 1st the percussion note was found to be improved at both bases, and the breath sounds were heard almost throughout the left side, but were very weak at the right base. At the right base also the vocal fremitus remained slightly diminished and friction sounds and râles were occasionally heard. The pulse was 108 and regular, and the albumen in the urine had slightly increased in amount. On Nov. 20th the patient was much improved and got up. She continued fairly well until Dec. 10th, when the breathing again became bad, her legs were more swollen and the physical signs at the bases increased, and there was also more albumen present in the urine. In the early part of January, 1891, she again improved and continued to do so during that and the following month, but at the beginning of March all the old symptoms had returned. On March 11th her face and hands became cyanosed, and she died on the following day after having been in a comatose condition for four hours. There had been no severe attack of dyspnœa for a considerable time previously to death.

At the necropsy both pleural cavities were found to contain a large amount of fluid, which was slightly bloodstained. Both lungs were œdematous, especially the lower lobes, there were no adhesions, and the left upper lobe was collapsed. The weight of the right lung was thirty ounces and of the left eighteen ounces. The heart was greatly hypertrophied, but not much dilated, and there was tricuspid insufficiency. There was no fluid in the peritoneum; the left lobe of the liver was found to be congested. The spleen was large and firm, and weighed nine ounces. Both kidneys were small and were very granular on the surface, the cortex being narrow; one kidney contained numerous cysts.

Colney Hatch Asylum.

A CASE OF SPINA BIFIDA IN THE CERVICAL REGION.

BY LEWIS MARSHALL, M.D. ABERD., M.R.C.S.

(*Reported by* GEOFFREY W. THOMPSON, M.B. Camb., *House Surgeon, Children's Hospital, Nottingham.*)

A CHILD aged seven months was admitted into the Children's Hospital, Nottingham, on March 25th of this year. The child was one of a healthy family, no other member suffering from any congenital malformation. It

was born without the help of any instruments and the mother's labour was quite easy. The mother stated that at birth there was a tumour at the back of the child's neck about the size of a hen's egg, that this tumour had gradually increased in size, and that its wall had become thinner and more glossy. There had never been any discharge from the swelling. On admission the child was found to be badly nourished, having small limbs and a hydrocephalic head, with a fluid tumour presenting in the middle line of the back in the cervical region. The tumour on examination was found to be attached to the middle line of the back by a pedicle covered with skin. The pedicle appeared to spring from between the fourth and seventh cervical vertebræ. The tumour had the following dimensions: (1) Greatest free circumference, 11½ in.; (2) from the attachment of the pedicle above to its lowest attachment, measured over the globular mass, 8½ in.; and (3) from its lateral attachment on one side to a corresponding point on the other side, 9¾ in. The pedicle measured about 2½ in. in length from above downwards. The skin of the back was continuous over the pedicle and the sides of the tumour and part of the posterior aspect above, but here the skin had lost its normal healthy appearance. The skin ceased at a well-marked line, the remainder of the sac being formed of bluish-pink glossy-looking membranes in which numerous bloodvessels were to be seen. The whole mass felt as if it were well and uniformly distended with thin fluid; it was translucent except at the pedicle and nothing resembling spinal cord or nerves could be detected on inspection. The surface was irregularly globular and was bulged in some places more than in others. There was no well-marked dimple. The head of the child was very large, measuring 17½ in. round the greatest circumference, the frontal, parietal and occipital bones bulging out over the base of the cranium. The anterior and posterior fontanelles were widely opened; at these points and the line of sutures of the bones the membranes bulged through. The child was free from any other deformity.

On March 30th, chloroform having been given, the tumour was removed. First it was tapped and then a clamp was passed across the pedicle at a sufficient distance from a hard swelling felt close to the spinal column to render damage to it impossible. Three fine pins were inserted on the outer side of the clamp to prevent any danger of slipping when the sac was removed. The sac was then cut away. The dura mater was stitched with a continuous silkworm gut suture, the clamp being removed immediately afterwards. Bleeding points in the integuments were ligatured and an interrupted hair suture was used to bring the edges together. The tumour contained ten ounces of clear colourless fluid with a specific gravity of 1005, a trace of albumen, but no sugar. The sac was formed partly of skin and over its whole extent two layers of membrane were found. No oozing of cerebro-spinal fluid followed the operation; but the child died quietly on April 3rd, without any convulsions.

A post-mortem examination was made and the laminæ of the fourth cervical vertebra were found to be absent. The laminæ of the third and fifth cervical vertebræ also were found deficient, although partly developed, leaving a narrow open space at the back of these vertebræ. From this opening in the vertebral column protruded a bulb-like growth of spinal cord tissue, about the size of a walnut, which on section was found to be quite solid, containing no canal or cavity. The spinal cord was, except for this bulbous enlargement, found to be normal. The head was opened and twenty-two ounces of clear colourless fluid were drawn from beneath the membranes and from the ventricles of the brain. The lateral ventricles were enormously dilated, the brain matter forming a sac wall of a quarter of an inch in thickness around them. The fluid contained no sugar, but a trace of albumen, and had a specific gravity of 1005.

Remarks by Dr. LEWIS MARSHALL.—This case seems to me to be of sufficient rarity to warrant publication. In seventeen years' work at this hospital I have not met with another case of spina bifida in the cervical portion of the spinal column, although cases occurring in the lumbar region and of meningoceles have frequently come under my notice. The presence of an offshoot from the spinal cord was quite unexpected, but it was fortunately felt at the time of the application of the clamp and held back by an assistant to prevent it being included. The continuous silkworm gut suture most effectively secured the dura mater, no fluid escaping after the removal of the clamp. The case was very unpromising from the first, but a slight hope existed that the result of the operation might be successful.

Rope-walk, Nottingham.

PERFORATING ULCER OF THE DUODENUM.

BY ARTHUR C. ROPER, F.R.C.S. & L.R.C.P.ED., M.R.C.S.ENG.

THE patient, a man aged fifty-five, was sallow and thin, his complexion was dark and his hair was very grey when I first saw him. He had usually enjoyed excellent health, with the exception of occasional attacks of indigestion. His father has since died at the age of ninety-three. Six uncles and aunts of the patient had died from cancer. On Oct. 27th, 1891, I saw him in bed. He complained of pain of a not very severe character in the epigastrium, which he attributed to flatulence. There was no tenderness on pressure, but there was a considerable flatulent distension of the colon and the bowels were costive. The patient had noticed that the pain was worse after a hard day's work. I elicited the fact that he had never allowed himself sufficient time for his meals. A daily aperient pill of aloes and belladonna, a mixture for the indigestion and a carefully regulated diet improved matters, a little pain that still remained in the left hypochondrium being removed by a belladonna plaster. I met him out-of-doors on Nov. 13th and he expressed himself as being quite well in every way. More than two months later, on Jan. 25th, 1892, I was again sent for. He had had a return of the old pain in the left side and had tried the belladonna plaster without effect. The pain reminded one of infra-mammary neuralgia. He described it as not remaining constantly in one place, but as sometimes on one side with a burning sensation and sometimes on the other. The pain usually started at the back and then travelled to the side or the epigastrium. No constant relation to food could be ascertained, nor was the pain present always or even daily. There was at no time melæna or hæmatemesis. On Feb. 8th Dr. Davy saw the patient with me, and, taking the strong family history into account, thought that it might be a case of commencing carcinoma of the pylorus. The pain appeared to me to be more like that of gall-stone colic, and both this diagnosis and that of gastric ulcer were discussed at two consultations. From the 20th to the 29th the patient had many attacks of pain, which were always relieved by hot drinks, hot milk and whisky being usually given. Considerable pyrosis supervening, I gave him a mixture of bismuth, soda and tragacanth, which improved matters wonderfully, and for the first three weeks of March he was apparently well, except for troublesome constipation, which was relieved by treatment. This was no doubt due to the careful dietary.

On the evening of March 26th he ate a hearty supper of cold roast pork and on the following day he suffered from a severe attack of indigestion, but was able to go twice to chapel and to be out of doors a good deal. I called to see him on the 28th, expecting to find him quite comfortable, but found that he was vomiting everything, after having passed a bad night and having had attacks of the old pain. Small quantities of iced milk and an ice poultice to the epigastrium stopped the vomiting, but in six hours violent pain came on in the right hypochondrium accompanied with faintness and collapse, and he died in thirty hours. An interesting point in this connexion is that a hypodermic injection of a quarter of a grain of morphia so relieved the pain of perforation that he said in the morning that he had had a fair night with plenty of sleep.

The necropsy, made thirty hours after death, showed the abdomen to be flooded with a turbid fluid, which was pouring out of a perforation the size of a threepenny piece at the back and upper part of the duodenum. There was considerable inflammatory thickening behind the duodenum, but nothing was observed to suggest cancer. The other organs were found to be normal.

Remarks.—Although the files of the medical journals contain records of some fourteen similar cases, it is rare to find one in which the patient had been under observation for any length of time before perforation occurred. In no case that I have read had a correct diagnosis been made, and all the literature that I have seen upon the subject at present agrees that it is impossible to arrive at a certain diagnosis. In this case the absence of hæmorrhage and the changing position of the pain, together with its great irregularity, were most puzzling.

East Southernhay, Exeter.

EXPECTORATION OF BRONCHIAL CASTS AFTER HÆMOPTYSIS IN PHTHISIS.

By R. W. RICHARDS, M.D. LOND.

THE formation of casts in the bronchial tubes, apart from diphtheria, is an event of great rarity. So much is this the case that Biermer is disposed to doubt if blood ever coagulates so as to form casts of the bronchi. The doubtful way in which English writers speak of it leads me to think that the publication of this case may prove interesting.

The patient, a man aged twenty-seven, by trade a porter in a warehouse, came under my observation in May, 1892. He said that previously to six months since he had enjoyed good health. He had to work in a very dusty atmosphere and denied (nor was there any evidence of) syphilis. As regards his family history, one sister died of bronchitis at ten years of age, his father died of phthisis (his age he did not know) and his mother suffered from "chronic bronchitis." The patient had been ill six months and the first symptom he noticed was that he became short of breath on exertion. He had had profuse night sweats, coming on chiefly in the early morning, and had had three separate attacks of hæmoptysis. When I saw him on May 5th he was a man of average stature, but he had evidently wasted. There was a hectic flush on the cheeks, his tongue was furred and his appetite bad. There was no vomiting or diarrhœa. The apices of both lungs were flattened, but the chest moved less at the right apex than at the left. The vocal vibrations were equal. A fine râle was present at both apices but nowhere else, and there was no impairment to percussion. The heart was normal. The abdominal organs were normal. The urine was acid, of a sp. gr. of 1018 and contained no albumen or sugar. He had lost weight. On July 5th he began to spit blood and brought up altogether about two fluid ounces. In his spit-jar some rounded reddish-looking bodies were noticed about as large as hazel nuts and on floating them out in water they unfolded into beautiful casts of the bronchi. Some showed at their distal ends little protuberances about as large as a pin's head as though they had been formed in the air cells. The largest consisted of a central branch which gave off immediately two lateral branches. One of these was quite imperfect as if it had occupied only part of that tube, whilst the other branch, like the central main stem, was rounded, and looked as if it had filled the bronchus of which it was a cast. At the beginning the central stem was about the diameter of a goosequill. The branches divided again and again and whilst some of the secondary branches ended in blunted, rounded extremities, others looked as if they had been formed in the infundibula and air cells. The casts were solid and not laminated, and under the microscope were seen to consist chiefly of blood-corpuscles held together by a mesh-work of fibrin. In length both the main stem and larger branch were about two inches, whilst some of the secondary branches measured quite an inch. There were four smaller casts evidently formed in different bronchi. The sputum, stained by Heneage Gibbes' method, showed numbers of tubercle bacilli. On July 25th there were dulness at both apices and much fine râle, with bronchial breathing and bronchophony at the left apex. He had three more attacks of hæmoptysis whilst under observation, but expectorated no more casts.

Remarks.—I think that the symptoms and physical signs, together with the state of the sputum, leave no room for doubt that this was a case of phthisis, though why he should expectorate casts on one occasion only amongst the six separate attacks of hæmoptysis which I saw I can in no way explain. A similar occurrence is spoken of as having been seen by himself by Dr. Walshe in his book on "Diseases of the Heart and Lungs," but neither Dr. Fagge nor Dr. Pye-Smith writes as if they had seen it themselves; hence I conclude that its occurrence must be very rare.

Llys Meirion, Dolgelly.

ACUTE PEMPHIGUS IN A GIRL AGED SEVENTEEN.

By R. H. BAKEWELL, M.D. ST. AND. & NEW ZEALAND, &c.

A GIRL aged seventeen, of slight build, dark complexion and rather pale, but not markedly so, consulted me on Feb. 22nd on account of an eruption of bullæ which had appeared on both hands and wrists a few days before. She thought she had poisoned her hands, but of this there was no evidence. On examination, on the backs of both hands and wrists were to be seen numerous bullæ filled with an almost clear serum, varying in size from that of a split pea to an inch long and half an inch wide, rising abruptly from the cutis. The girl was regular as to menstruation, but the bowels had been constipated for months. She was forthwith ordered five-grain mercurial pills, to be followed by a mixture containing extract of cascara sagrada and sulphate of magnesia. On Feb. 27th she came again, when the bullæ were all drying up. The bowels had acted moderately with purges. Zinc ointment was prescribed. The patient came on March 25th to show me her hands. The places where the bullæ had been were marked very distinctly by increased redness of the skin, which, however, in other respects was perfectly healthy. The whole duration of the disease was about a fortnight.

Remarks.—Acute pemphigus in adults is exceedingly rare—indeed, Dr. Radcliffe Crocker says that Hebra denies its existence. I have seen several cases of pemphigus in infants lately, but cannot recollect one in an adult. No special cause could be assigned for the eruption. The "poisoning" theory was one entirely unsupported by facts.

Auckland, New Zealand.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propriis collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

UNIVERSITY COLLEGE HOSPITAL.

A CASE OF NERVE SUTURING AND ONE OF NERVE GRAFTING.

(Under the care of Mr. CHRISTOPHER HEATH.)

THE first of these cases is an example of secondary suture of nerves performed three months after the infliction of the wound which divided them. It will be seen from the account of this patient that the operation was performed under considerable difficulty owing to the presence of scar tissue and changes in the ends of the nerves and that, although the operation was successful, the patient had not fully recovered at the end of fifteen months afterwards. A reason is not given in the history of the case to account for the fact that no attempt was made in the first instance to suture the nerves when the operation is so much easier and more likely to be rapidly successful. The second case is one of a class much more rarely met with, in which the process of grafting to supply the deficiency caused by removal of a tumour with the part of the nerve from which it is growing has met with varying success. In a case of removal of tumour of the wrist the divided median nerve was restored two days later by means of part of the posterior tibial; in another a portion of a median nerve was transplanted to replace part of a median nerve removed above the elbow. The spinal cord and sciatic nerve from the rabbit have been used to restore continuity in separation of nerve ends after wounds. It will be noted that Mr. Heath performed his operation in two stages, the continuity of the nerve being restored four days after the removal of the tumour. For the notes of these cases we are indebted to Mr. G. B. M. White, surgical registrar.

The first case was that of a man aged twenty-six, who, eleven weeks before admission, fell into the knives of a mowing machine in motion and cut his right wrist deeply. The wound bled freely, and the patient noticed that the hand "fell backwards" when he attempted to move it. He also observed that he was unable to feel anything with the little and ring fingers and only partially with the middle and index fingers, whilst he could feel well with the thumb. Sensation was lost, too, over the palm of the hand and inner side of the wrist, but not on the back of the hand. The wound healed in about a month. On admission

(Oct. 1st, 1891) the general condition of the patient was very good. There was a deep scar across the inner two-thirds of the front of the right forearm two inches and a quarter above the upper end of the pisiform bone. The inner end of the scar was directly adherent to the ulna; the outer part of it to the muscles. Just to the outer side of it the pulsations of the radial artery could be felt. The bulbous ends of the median and ulnar nerves could be felt an inch and three-quarters and an inch and a half respectively above the scar. Pressure upon the first caused referred pain along the palmar aspect of the index and middle fingers, and pressure upon the second produced painful sensation in the little finger. As regards tactile sensation, the skin was completely anæsthetic on the inner two-thirds in the anterior aspect of the forearm below the scar; the palm of the hand and the palmar aspect of the fingers were also completely anæsthetic, and there was a narrow strip of anæsthesia along the palmar aspect of the thumb. The outer part of the thenar eminence and the radial border of the hand were not anæsthetic. On the dorsum of the hand there was anæsthesia of the skin of the second and third phalanges of the index and the middle fingers and of all the phalanges of the ring and the little fingers, with the adjoining part of the dorsum of the hand. The ulnar border of the hand was also anæsthetic. Nowhere was there a sharply-defined margin to the anæsthesia, but there was a zone of altered sensation between it and the normal skin. This was notably the case at the radial border of the hand. There was slight permanent flexion of the fingers, chiefly of the middle finger, and any attempt to straighten the fingers caused further depression of the scar. There was some power of voluntary flexion in the fingers—most in the middle finger, considerably less in the index and very little indeed in the ring and little fingers. Slight flexion of the wrist accompanied the above movement. The power of extension of the wrist was good, that of the fingers much restricted. The intrinsic muscles of the hand were greatly wasted and no voluntary motion could be demonstrated in any of them. The movements of the thumb were restricted to flexion and extension by the long muscles. The forearm muscles on both aspects of the limb reacted well to the faradaic current. No reaction could be obtained in the intrinsic muscles of the hand with this current. The pronato-flexor group gave the reaction of degeneration; the anode opening contraction was obtained with seven cells in the circuit, the kathode closing contraction with nine cells. The supinato-extensor group gave no reaction of degeneration, the kathode closing contraction ten cells, and the anode opening contraction twelve cells. The thenar muscles gave the anode opening contraction with fourteen cells; the kathode closing contraction could not be obtained. The abductor indicis gave the anode opening contraction with twenty cells, the kathode closing contraction not at all. The hypothenar muscles gave no contraction with thirty cells in the circuit. On Oct. 7th gas followed by ether was administered, and Mr. Heath made an H-shaped incision, the transverse bar of the H being composed of two parallel incisions including the old scar, which was completely removed. The flaps were turned upwards and downwards; the ends of the median and ulnar nerves were found without much difficulty. The proximal end of each nerve was bulbous and there was a slight, but distinct, bulb at the distal end of the median nerve. The distal end of the ulnar nerve was a thin strand continued into the fibrous tissue of the scar. From the proximal end of the median nerve a piece two-fifths of an inch long and one-third of an inch in diameter was removed. The fresh section had the appearance of healthy nerve. A small disc one-sixteenth of an inch thick and one-fourth of an inch in diameter was removed from the distal end of the median nerve About one-third of an inch was removed from the proximal end of the ulnar nerve and a thin, fibrous strand from the distal end of the same nerve. The ulnar artery was re-divided and ligatured above and below. The freshened ends of the nerves were brought into close apposition when the wrist was strongly flexed and were held together by a double kangaroo tendon suture. The suture traversed each nerve end transversely one-eighth of an inch from the freshened surface. The ends of the flexor tendons were also freshened and drawn together by a single kangaroo tendon suture. The wound was treated with carbolic lotion (1 in 40) and with iodoform powder; it was closed by silk sutures except the upper limbs of the H; these were left open for drainage. A dressing of dry iodoform and salicylic wools was applied, as also was a metal back-splint. The temperature reached 101·6° on the evening of the second day after the operation and was normal again by the sixth day and remained so afterwards. The first dressing was on the sixth day; some suppuration had occurred in the wound. After this the wound was dressed daily; it had healed on the thirtieth day. During the first fortnight after the operation the patient experienced tingling sensations in his fingers, but there was no return of tactile sensation at this time. On the thirty-seventh day there was apparently some return of tactile sensation, chiefly in the index finger and proximal segments of the other fingers. This condition did not further improve up to the time of discharge, forty-four days after the operation. The metal splint was straightened on the thirty-third day and left off on the forty-first. There was better movement of the fingers than before the operation. During the winter a slough formed on the ring finger of the right hand; but on Jan. 3rd, 1893, Mr. Peter Giles wrote: "The man is well and gets more use in his hand." The pieces removed from the nerves were subjected to microscopical examination after staining with osmic acid. In the proximal end of the median nerve were twelve distinct bundles of nerve fibres, presenting an almost normal appearance; but it was thought that there were fewer fibres in each bundle than in bundles of equal size in a healthy nerve. The fibres stained deeply with osmic acid. In the distal end of the median nerve were a few nerve fibres irregularly arranged in the fibrous tissue, which composed the greater part of the section. Some of the nerve fibres were cut very obliquely. The medullary sheath was faintly stained. In the proximal end of the ulnar nerve was a shrunken nerve bundle (perineurium &c.) in which no nerve fibres could be seen. Fibrous tissue composed the remainder of the section. In the distal end of the ulnar nerve there were two nerve bundles. These contained small nerve fibres (about one third the diameter of normal fibres) and very few of them stained by the osmic acid.

The second patient was a servant girl aged twenty-one, who for two years had noticed a tumour on the inner side of the right arm. It had been painful for the last six months only and during that period had grown more rapidly. Recently, when the tumour was pressed, she had experienced pain in the little and ring fingers. On admission on Jan. 4th, 1892, the patient was stout and rather anæmic. On the inner side of the right arm, two inches and a half below the anterior axillary fold, was a tumour as large as a walnut. There was no adhesion of the skin to it. The tumour could be moved freely from side to side, but scarcely at all in the direction of the length of the limb. It lay over the brachial artery, but there was no communicated pulsation. The tumour was hard and non-elastic, sharply defined, and somewhat angular in outline. It was hardly painful, except when pressed upon; then there was pain referred to the little and ring fingers, but this was not always the case, and sometimes the pain was referred to the middle and index fingers and to a less extent to the thumb. There was no paresis or wasting of any of the arm or hand muscles and no enlargement of the axillary glands. On Jan. 6th Mr. Heath exposed the tumour; it was found to be growing in the ulnar nerve. There were very few nerve fibres crossing the anterior surface of the tumour, but on the posterior surface the greater part of the nerve was flattened out. An attempt was made to shell out the growth, but this was found to be impossible and was, moreover, thought to be unadvisable on account of the sarcomatous appearance of the tumour. A piece of the ulnar nerve an inch and a half long bearing the tumour was excised, the section traversing the nerve a quarter of an inch from the tumour at each end. Before the upper section was made the nerve was stretched; it yielded less than half an inch. An attempt was then made to bring the divided ends together, but this was impossible; a gap of two inches separated them. The wound was closed without drainage and dressed with iodoform and salicylic wool.

On the second day after the operation the temperature reached 101°; it was normal again on the third day. There was loss of tactile sensation over the whole of the little finger and inner aspect of the ring finger. The back of the hand was anæsthetic as far outwards as the third metacarpal bone, the palm as far as the line of the fourth. There was no anæsthesia above the wrist. There was complete loss of voluntary power in all the muscles supplied by the ulnar nerve. The little and ring fingers were kept semi-flexed and their inter-phalangeal joints could not be extended voluntarily. On the fourth day (Jan. 9th) after the first operation the wound, which was healing well, was reopened and enlarged at either end. The ends of the ulnar nerve were found and

about one-eighth of an inch was cut off from each end. A fine silk thread was passed transversely through each end. The proximal end was slightly bulbous. Then two inches and a half of the posterior tibial nerve from a limb which had just been amputated by Mr. Beck for sarcoma of the lower end of the femur were grafted into the gap in the ulnar nerve. The graft was retained in position by means of two fine silk sutures at either end. About twenty minutes elapsed between the time at which the limb from which the nerve was taken was severed from the body and the time when the union of the piece of nerve with the ulnar nerve of the patient was completed. The wound was sutured closely and dressed with iodoform wool. The temperature rose to 101° the same evening; it was normal again on the third day after the operation and with the exception of an isolated rise to 101° on the tenth day remained normal afterwards. On the seventh day the anæsthesia on the back of the hand was found to have decreased, extending now as far out as the fourth metacarpal bone. The wound healed by first intention; the alternate sutures were removed on the fifteenth and the remainder on the nineteenth day. On the twenty-seventh day (Feb. 4th) there was no further return of tactile sensation in the area supplied by the ulnar nerve and the muscles supplied by the ulnar nerve showed the reaction of degeneration. On March 27th, 1893, Mr. Damer Harrisson, who kindly examined the patient, wrote: "There was no return of function in the ulnar nerve of the right side. The little finger was blue and glossy and a small ulcer was present on its dorsal surface." There was "a somewhat inflamed bursa over the prominence of the pisiform bone, caused by the way she holds her brushes when at housemaid's work." The tumour removed from the ulnar nerve was one inch and a quarter in its longest diameter, that of the direction of the nerve. It was covered by a distinct capsule, composed of the ulnar nerve and its sheath. Into the centre of the growth, which was opaque, white and firm, there were several small hæmorrhages. The peripheral parts of the tumour were pinkish white, semi-transparent and comparatively soft. In several places the tissue of the growth was disintegrating and small irregular cavities had formed. Under the microscope the tumour had the structure of a fibro-sarcoma. Bone had developed in isolated spots in the centre of the growth.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Continuous Suture of Intestine after Excision of Cæcum.—Intestinal Obstruction from Impaction of Gallstone.—Pulmonary Abscess communicating with Mediastinum.—Pseudo-bulbar Paralysis due to Bilateral Cerebral Lesion.

AN ordinary meeting of this Society was held on May 12th, the President, Sir DYCE DUCKWORTH, in the chair.

Mr. BRUCE CLARKE gave the details of a case of Excision of the Cæcum, in which the two ends of the divided bowel were successfully united by a continuous silk suture. He showed a boy from whom he had excised the cæcum and vermiform appendix with about two inches of larger and two inches of smaller intestine in consequence of an irreducible local hernia of congenital nature. The testicle was so firmly adherent to the vermiform appendix and to the scrotal wall that it had to be removed as well. The preparation of the parts removed was also shown. The operation had been performed about a year previously, and the boy was perfectly well and had no trace of a hernia. The cut ends of the intestine were united by a double row of continuous sutures and the boy recovered without a bad symptom, being up in less than three weeks from the date of the operation. Mr. R. W. PARKER held that it was a great advance to get a successful result from such a simple method of suture, which would be very useful in cases of intussusception in both children and adults, especially where the condition of collapse precluded a prolonged operation.—Mr. EDMUNDS related an instance in which he had operated for malignant tumour in the sigmoid flexure. He aimed at resecting the bowel outside the abdomen and therefore made a median incision and fixed the bowel with the growth outside the wound. Five days later, when it had become shut off from the peritoneum, the growth was removed and the ends of the intestine were stitched together with a continuous suture outside the abdomen, but the line of suture broke down later and a fæcal fistula formed. Repeated operative endeavours had since been made to close this, with an almost completely successful result.—Mr. PEARCE GOULD said that surgeons would be glad to know how to bring such difficult cases to a successful issue. The suture in cases like that related by Mr. Bruce Clarke was not at all so difficult when done for gangrenous hernia, for there was no intestinal obstruction or inflammation of the parts cut through and sutured.—Mr. BRUCE CLARKE, in reply, thought that the successful issue of the case showed that where the intestine was healthy the simple method of suture was best. The testis was firmly adherent to the cæcum and this appeared to be due to some intra-peritoneal inflammation in utero, and when the testis descended later it endeavoured to drag down the gut with it.

Mr. ROBERT NAIRN related a case of Intestinal Obstruction due to Impaction of a Gall-stone in the Jejunum. The patient was a woman aged seventy-five and the obstruction had lasted a week. There were no symptoms pointing to the cause. The abdomen was opened and a gallstone three inches in circumference which was blocking the jejunum was removed. The patient stood the operation well and said she felt relief, but she suddenly sank and died ten hours later.—Sir DYCE DUCKWORTH said the case was one, when he saw it, which had reached such a point that operative interference was called for. There was nothing to indicate the site of obstruction, there had been no biliary colic and the patient had been previously healthy. He presumed that the gallstone had slowly found its way by ulceration from the fundus of the gall-bladder into the duodenum; it then passed to the jejunum, where it became impacted. The advanced age of the patient, together with the shock and vomiting, accounted for the fatal result.—Dr. ALEXANDER MORISON referred to the case of a patient who, after suffering from hepatic colic, became seriously ill and vomited a gallstone as large as a cherry. Then followed symptoms of intestinal obstruction with pain, and later a calculus an inch in diameter was passed with complete relief to the symptoms.—Dr. HABERSHON mentioned a case of acute intestinal obstruction which had been under his father's care and which was operated on by Mr. T. Smith. There had been a previous history of gallstone and on incision a calculus was found impacted high up in the jejunum.—Mr. PEARCE GOULD exhibited a calculus which he removed from a woman in the Middlesex Hospital in 1890. The patient, who had been previously treated for a gallstone, stated that three days before admission she was suddenly seized with severe pain at the umbilicus. Then followed vomiting, which became stercoraceous, and signs of complete intestinal obstruction. A large umbilical hernia was explored without result and then the ileum was felt to contain a gallstone in it. This stone was pushed upwards several inches above the point of impaction and then the intestine was incised and the stone evacuated. She passed three loose motions after the operation, but died in twenty-nine hours. The case might have terminated differently if the operation had been performed before the symptoms became so serious, as the patient was already the subject of fatty heart. Many cases had recovered without operation under opium and gentle massage.—Mr. BRUCE CLARKE said he had twice operated for intestinal obstruction and found the cause to be impacted gallstone. In the first the calculus was speedily found and removed with a successful result; in the second it was not found so readily, and after removal the patient, who was an old and exhausted woman, sank and died.

Dr. ALEXANDER MORISON then read notes of a case of Pulmonary Abscess which discharged through the right lung and communicated with the Posterior Mediastinum. A lady aged thirty-two had a slight cough which gave her little trouble and attracted but slight notice before her accouchement with her second child on Dec. 4th, 1890. Delivery was natural and the puerperium uneventful. Towards the end of December the cough became more troublesome and her temperature began to rise, and on coughing an offensive exhalation was perceptible to the patient. No local cause was discoverable for the cough beyond a reddening of the fauces. The patient was found to have, concealed by false teeth, a row of carious stumps with peri-dental suppuration. Defective drainage was likewise discovered in the house. A febrile temperature and general constitutional disturbance continued without satisfactorily determinable cause, until it was found that on the patient turning on her left side an offensive and purulent discharge escaped without effort into her mouth and transient large

crepitation in the bronchi to the right of the sternum was discovered. Later percussion-dulness was found in the right supra-scapular region with a zone of crepitation at the lower point. Still later, respiration in the supra-scapular region became amphoric and the evidence of an abscess at the right posterior apex discharging through the lung was complete. On March 1st, 1891, Mr. Bryant evacuated a small quantity of pus through an incision in the right inter-scapular region after piercing the third right intercostal space close to the angle of the ribs. The wound was treated antiseptically as far as possible. On coughing and expiration air as well as pus jerked through the drainage-tube and the patient died on March 20th, 1891. The question of diagnosis lay between thrombotic inflammation of pulmonary tissue and the discharge of an abscess of the posterior mediastinum through the lung. There was no post-mortem examination of the body.—The PRESIDENT inquired why, when the first surgical procedure was unproductive and the symptoms were unabated, a second operation was not undertaken.—Dr. DIVER asked whether the liver could have been the seat of origin of the abscess.—Dr. MORISON replied that there was no change in the physical signs which would have warranted further operative procedure and the patient was so infected constitutionally that no benefit seemed likely to accrue from further interference. There was no indication that the liver was involved.

Dr. NEWTON PITT gave the clinical history of a case of Pseudo-bulbar Paralysis which was probably due to a Lesion in each Cerebral Hemisphere. The patient was a man aged fifty, who had already been exhibited at the Society. At Christmas he had an attack of slight right hemiplegia without aphasia, and in February an attack of paresis of the left arm and face without loss of consciousness. Since this time he had been quite unable to move the muscles of his face, lips, tongue, larynx or pharynx voluntarily, but all the reflex movements were preserved. The muscles were not wasted, there was no fibrillar twitching and the electrical conditions were unaltered. The patient had chronic Bright's disease; he was fed entirely by an œsophageal tube. Dr. Pitt referred to the literature of the subject, especially to the abstract of Dr. Boulay's paper in the fourteenth volume of *Brain*, p. 352. These cases differed from those of progressive bulbar paralysis, especially in the history of two unilateral attacks, in the sudden onset and in the absence of all wasting and degenerative changes in the muscles. The lesions were generally patches of softening or hæmorrhage, most frequently in the outer third of each lenticular nucleus, but they might be situated in the second and third frontal lobes. The paralysis in the present case was more complete and extensive than in the hitherto recorded cases which had survived more than a few days. In reply to a question, Dr. Pitt added that there was no definite aphasia at any time.

PATHOLOGICAL SOCIETY OF LONDON.

Report of Morbid Growths Committee.—Retro-peritoneal Hernia.—Ulcerative Endocarditis with Hæmorrhagic Infarctions in a Calf.—Chylous Pleurisy and Ascites.—Traumatic Dissecting Aneurysms of Thoracic Aorta.—Lymphadenoma of Lungs and other Organs.—Fractures through Anatomical Neck of Humerus.

THE annual general meeting of this Society was held on May 16th, Sir GEORGE HUMPHRY, President, in the chair.

The SECRETARY read the report of the Morbid Growths Committee on four sets of specimens. In three instances the conclusions of the committee agreed practically with those of the writers; but with regard to the specimens of "Psorosperms" in Cancer and Sarcoma exhibited by Mr. J. Jackson Clarke[1] the report, after a minute and detailed criticism of each of the points raised, concludes in the following terms: "We are unanimously of opinion that, notwithstanding the labour expended by the author on this subject and the feasible hypothesis or scheme he has framed, he has quite failed to prove his particular contentions. Certain of the appearances shown and described do not, it must be allowed, at present admit of satisfactory interpretation, and we do not, of course, wish to imply that we exclude the possibility of some of these being hereafter proved to be stages in the life-history of a micro-parasite. The author, however, has not adduced any fresh evidence in support of this view. Other of the appearances, as previously stated, we hold to be distinctly misinterpreted. The author's attempt to show intermediate stages of development and a process of sporulation occurring in certain elements present in tumours has, in our opinion, failed. His so-called intermediate stages have often nothing in common nor do they always coincide in their staining reactions. Whether malignant tumours are due to micro-parasitic infection or not, the methods pursued by the author must be pronounced imperfect, uncritical and not calculated to advance, at least directly, our knowledge on this question. When reliance is placed solely upon histological appearances it is most important that these should be carefully checked by an extensive and thorough survey of the details of normal and pathological histology."

Mr. J. JACKSON CLARKE showed a typical specimen of the Mesenteric Retro-peritoneal Hernia of Sir Astley Cooper from a case of Mr. Page. The symptoms were those of acute obstruction. The whole of the small intestine was contained in a sac consisting of a double layer of peritoneum. After performing laparotomy Mr. Page found that the superficial aspect of the hernia resembled a smooth ovarian tumour and he was able to withdraw the whole of the contents through a wide orifice at the lower part of the hernia. This aperture was bounded in front by the superior mesenteric vessels. After death, which was due to exhaustion, about two feet of the upper part of the ileum were found to be congested, whilst the rest of the small intestine had its normal appearance. The condition was no doubt an error of development. The case was similar to that published by Dr. A. G. Barrs (*Brit. Med. Jour.*, Aug. 8th, 1891).

Mr. H. B. ROBINSON showed for Mr. SIDNEY WRIGHT a specimen of Ulcerative Endocarditis with Hæmorrhagic Infarctions in a Calf, one of twins, the other of which had remained healthy. The calf showed symptoms of illness on the fourth day, being affected with dyspnœa and fainting fits. It died rather suddenly at the age of five weeks. On examination the heart showed vegetations on the mitral, tricuspid and aortic valves, and there were infarcts in the kidneys and hæmorrhagic areas in the lungs. There was no suppuration elsewhere, though the condition of the umbilicus and its vessels was not noticed. The mother of the animal had a portion of one of the placentæ retained for three days and the cow was very ill during this period. After its expulsion it was found very offensive and the cow rapidly recovered.

Dr. TURNEY read a paper on a case of Chylous Pleurisy and Ascites. The patient, aged fifty-four, was admitted into St. Thomas's Hospital under the care of Dr. Ord on March 11th, 1893, and died there on April 2nd. He had suffered from vomiting for six months and five weeks ago had noticed the appearance of lumps on either side of his neck, in the axillæ and in the groins. Whilst the patient was under observation the vomiting continued and the glands in the neck increased in size. The urine remained free from albumen throughout. At the necropsy the abdomen was found to contain about five ounces of milky fluid and the right pleura two pints. In the left pleura there was a pint of turbid serum with some fat held in suspension. The thoracic duct was dilated in its whole extent and was blocked at its outlet by thrombosis of the internal jugular and subclavian veins limited to that spot. The liver appeared normal. The general glandular enlargement was due to infiltration with carcinomatous deposit, secondary to scirrhus of the pylorus. The inner surface of the stomach was also covered with secondary nodules. Dr. Turney suggested that the thrombus around the opening of the thoracic duct was due to the lodgment there of a cancerous embolus, adducing in support of his view the general dissemination of the growth through the lymphatic system and the difficulty of otherwise explaining the thrombosis.

Dr. ROLLESTON showed specimens of Traumatic Dissecting Aneurysms of the Thoracic Aorta in a stableman aged forty-five, who, when in fair general health, received a kick from a horse, fracturing the sixth right rib and the sternum at the level of the fifth rib and giving rise to hæmorrhage into the liver and the right supra-renal capsule. The patient lived for four days. Six hours after the accident there was great dyspnœa relieved by bleeding, and there were systolic mitral, systolic aortic and musical diastolic aortic murmurs. On the day before death a diastolic aortic thrill appeared. The valves of the heart were healthy; just above the aortic valve there were a transverse rupture of the inner and middle coats and a dissecting

[1] THE LANCET, Feb. 25th, 1893, p. 416.

aneurysm which opened into the aorta again near the scar left by the obliteration of the ductus arteriosus. There was a little atheroma of the base of the aorta nine inches from the aortic valves; in the thoracic aorta there was a second dissecting aneurysm. The rupture of the two inner coats of the aorta was due to the traumatism, and the dissecting aneurysms, which appeared to be quite recent, developed subsequently.—Dr. HADDEN doubted whether traumatism could give rise to aneurysm in a healthy vessel. He referred to a case in which there had been no history of injury and in which a dissecting aneurysm of the aorta was discovered post mortem. There was very little evidence of atheroma.—Dr. BRADFORD said that last summer he witnessed the post-mortem examination of an aged woman who died of malignant disease of the sigmoid and a dissecting aneurysm was found at the root of the aorta. There was no history of traumatism in that case.—Dr. ROLLESTON in reply said that his view was that the injury was the exciting cause of the aneurysm in a vessel previously weakened by slight atheromatous change.

Dr. CHAPLIN showed specimens of Lymphadenoma of the Lungs and other Organs taken from a woman aged thirty-two. She had been in good health until two years ago; she then began to complain of the ordinary symptoms of anæmia. One year ago she noticed some enlarged glands in the neck and at about the same time complained of more difficulty in breathing, cough and expectoration. When seen there were large masses of glands on either side of the neck and in the axillæ and groins; they were not adherent to the skin and were freely movable on one another. Over the upper part of the right upper lobe there was dulness with loud bronchial breathing and pectoriloquy. The sputum contained no tubercle bacilli. The liver and spleen afterwards became enlarged. For three months the temperature was raised, varying from 99° to 102°. At the necropsy the whole of the upper lobe of the right lung was invaded with the growth, giving the lung the appearance of a lobular gland. There were no caseating centres. The bronchial glands were affected in a similar way. A large mass of lymph tissue was found in the anterior mediastinum at the base of the heart; the glands in the body were generally enlarged. In the left lung also there were two large nodules of lymphadenomatous tissue, one in each lobe, and in one of these there was a caseating centre. The spleen weighed fourteen ounces and a half and contained many deposits of lymphadenoma. There was no sign of the growth in the liver and kidneys. In reply to a question, Dr. Chaplin added that the growth was typically lymphadenomatous in structure and that it appeared to commence in all the tissues involved coetaneously.

Mr. CLUTTON exhibited a specimen of the Articular Head of the Humerus, the Line of Fracture having followed almost exactly the direction of the Anatomical Neck. It was found quite loose in the axilla of a woman aged sixty-one, who had fallen on to her shoulder with a heavy weight in her arms. The axilla was opened and the head of the humerus removed without the use of knife or scissors. A large rent was found in the capsule of the joint through which the head of the bone at the time of the fracture had been thrust out into the axilla. On passing the finger round the broken surface within the capsule the great tuberosity was found to have been torn off from the shaft. The wound healed by first intention and the patient obtained a very useful shoulder. The second specimen, which was almost identical with the first, was one that was obtained from Mr. Croft's practice and was recorded in THE LANCET of 1890, vol. i., p. 701. Mr. Croft had kindly allowed the specimen to be shown there that night as a supplement of the first, for the history, treatment and result were practically the same. The patient was a man aged thirty-three, who had fallen through a trap-door for a distance of about eighteen feet.

The following card specimens were shown:—

Dr. H. D. ROLLESTON: Aortitis Syphilitica.

Mr. W. G. SPENCER: (1) Dermoid Cyst with Infundibular Pedicle from a case of Masked Spina Bifida; (2) Congenital Hypertrophy involving the Distal Portion of the Foot and the First and Three Middle Toes.

Mr. W. H. BATTLE: (1) Cast from a Case of Membranous Urethritis; (2) Primary Sarcoma of the Corpus Cavernosum Penis; (3) Aneurysm of the Vertebral Artery in a Child.

Mr. S. G. SHATTOCK: Pharyngeal Diverticulum.

The report of the Council was then read and disclosed a satisfactory state of affairs; the amount withdrawn from investments during the previous year to make good the deficit having been more than replaced. The usual votes of thanks to retiring officers were then passed and Sir George Humphry, in reply, referring to the vigour of the Society, said that it was in great measure due to the circumstance that they did not confine their attention to the facts of disease but devoted much time to the study of its processes.

The following officers were elected to serve during the ensuing year:—President: Dr. F. W. Pavy, F.R.S. Vice-Presidents: Drs. S. Coupland, J. F. Goodhart, W. Smith Greenfield, W. Miller Ord, and Messrs. W. Watson Cheyne, H. H. Clutton, W. Harrison Cripps, and Rickman J. Godlee. Treasurer: Dr. W. Cayley. Honorary Secretaries: Dr. F. Charlewood Turner and Mr. A. A. Bowlby. Council: Drs. Theodore Dyke Acland, T. Colcott Fox, R. G. Hebb, S. Martin, F. Wm. Mott, W. Pasteur, Howard H. Tooth, Samuel West, Dawson Williams, German Sims Woodhead, Edgar Crookshank, D'Arcy Power, and Messrs. W. H. Bennett, Stanley Boyd, W. Bruce Clarke, W. Edmunds, M.C., W. Arbuthnot Lane, C. B. Lockwood, S. G. Shattock and C. Stonham. Trustees: Sir Richard Quain, Bart., M.D., F.R.S., Dr. G. M. Pollock and Dr. Samuel Wilks.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases.

A MEETING of this Society was held on April 5th at the Medical Institute, at which Mr. EALES, the President, showed a girl aged eight afflicted with a well-marked patch of Keloid the size of a small nut over the left eyebrow with many radiating claw-like branches, some of which extended to the lower border of the upper lid, which in the centre was devoid of eyelashes. According to the history there was a "birth-mark" over the eyebrow, and when about fourteen months old an eruption attacked this area and left a scar from which the present patch developed.—Mr. WHITE showed for Dr. FOXWELL a man aged twenty-three who had been suddenly seized with Paraplegia whilst walking. This was followed by atrophy of the thigh muscles, loss of knee-jerks and reaction of degeneration, sensation continuing normal. The man had completely recovered in four months. Dr. Foxwell considered the symptoms to be due to an acute poliomyelitis occurring in an adult.—Mr. WILLIAM THOMAS read a paper on Talipes Carus and Dr. PURSLOW one on the Treatment of Abortion.—At the meeting on April 19th several specimens were brought before the members of the Society. A case of Exostosis of the Frontal Bone was shown by Mr. WOOD WHITE, after which Mr. CHAVASSE showed a Mixed-celled Sarcoma growing from the deep fascia of the middle third of the right leg of a female patient aged fifty-six. There was a history of an injury from a bucket. Supra-condyloid amputation had been performed successfully. Mr. Chavasse also brought forward a man upon whom Lateral Pharyngotomy had been successfully performed thirteen months ago for removal of an alveolar sarcoma of the left tonsil.—Mr. HASLAM showed a man aged thirty-one, whose clavicle he had successfully removed five months ago for sarcoma.—Mr. BARLING showed a case in which he had performed Prostatectomy successfully after an operation of the same character had been performed previously.—Lastly, Dr. FOXWELL showed a man aged sixty-two with a Chronic Effusion of Clear Serum in his Right Pleural Cavity. No pyrexia, displacement of heart or involvement of lung had been noted. The man was in a feeble state and Dr. Foxwell discussed the question as to whether removal of the fluid was advisable, the exploring syringe having shown the pleura to be very thick.—After the presentation of specimens Mr. CHAVASSE read a paper on Lateral Pharyngotomy as a Method of Treating Malignant Disease of the Tonsil.

THE CITY OF LONDON TRUSS SOCIETY.—The Lord Mayor presided on Tuesday at the annual dinner of this Society, held at the Albion, Aldersgate-street. The report read by the secretary, Mr. J. Whittington, detailed the operations of the society during the past year. By this account it would appear that the number of patients treated in the twelvemonth was 9609, whilst the instruments supplied numbered 9652. Considerable improvements had been effected in the society's buildings, alterations which had made serious inroads on the funds of the institution. Subscriptions to the amount of £700 were announced at the conclusion of the meeting

Reviews and Notices of Books.

A Treatise on Gynæcology, Clinical and Operative. By S. Pozzi, M.D., Professor in the Faculty of Medicine, Paris, Surgeon to the Lourcine-Pascal Hospital. Vol. II. London: The New Sydenham Society. 1893.

THE second volume of the translation of Dr. Pozzi's work, issued by the New Sydenham Society, contains Books V., VI., VII., VIII. and IX., in which the following subjects are treated of respectively: Cancer of the Uterus; Displacements of the Uterus; Malformations of the Cervix; Disorders of Menstruation; and Inflammation of the Uterine Appendages. Probably Books V. and IX. will be those to which the majority of readers will be especially attracted in the first instance. We observe in the account of Cancer of the Uterus one little point that is, so far as we know, not very generally recognised. We refer to the statement that the inguinal glands are, or may be, affected in cancer of the cervix apart from any infection of the vagina. The lymphatics of the cervix communicate with those of the body generally, and these with the inguinal glands, by vessels accompanying the round ligaments. Another glandular infection of interest is that of the left supra-clavicular glands, which may occur in abdominal cancer generally, and especially in uterine cancer—a point to which Troisier has called attention. But it is to the account of the treatment recommended for cancer of the cervix that we turn with most interest. Professor Pozzi has come to the conclusion that complete hysterectomy is preferable to amputation of the cervix "even in cases where the cancer is very circumscribed." He considers that it alone gives a certainty of removing the whole disease, no doubt intending it to be understood for the sake of argument that the whole disease is limited to the uterus. We think it must be admitted that the author adduces strong reasons for coming to the conclusion at which he has arrived. It seems to be beyond doubt that, occasionally at all events, the body of the uterus may be involved even in what may seem to be early cases of cancer of the cervix. In some such cases there can, according to Dr. Pozzi, who has met with an example himself, be seen "a kind of line of new growth reaching up to the fundus of the uterus by way of the mucous coat." This was in a case where hysterectomy had been performed "for an epithelioma that seemed perfectly confined to the lower portion of the infra-vaginal cervix." In other and rarer cases "isolated metastatic nodules" have been found to coexist with a very small cancer of the cervix. As regards the mode of performing vaginal hysterectomy, the author regards pressure-forceps as an unreliable way of securing the vessels in the broad ligaments. Here, obviously, much must depend on the exact method adopted by each individual operator. For instance, one operator might include a much greater breadth of tissue in a single pair of forceps than another would consider it safe to do. Besides, it is the fact that some operators, here and elsewhere, trust entirely to pressure-forceps, with satisfactory results. We should agree that it is unnecessary to suture the wound left by the removal of the uterus. In Book IX., which treats of Inflammation of the Uterine Appendages, we are glad to see that stress is laid on the close relation existing between ovaritis and salpingitis. The experience of those who are frequently called on to make abdominal sections, as well as of those who have examined a considerable number of the female pelvic organs in the post-mortem room, favours the opinion here expressed that "there is no ovaritis without salpingitis or salpingitis without ovaritis." As regards etiology, Dr. Pozzi considers that "without a shadow of a doubt inflammation of the uterus is the chief cause of inflammation of the appendages." He divides salpingitis into cystic and non-cystic, according as there is or is not a definite dilatation of the tube that would be recognisable either clinically or in the post-mortem room. As is well known, the question of the treatment to be adopted for this affection has been hotly disputed, but it is here clearly and impartially discussed; the views held by various authorities are fully given, but we have no difficulty in ascertaining what the author's own opinion is. For the cases of non-cystic salpingitis he advocates at least six months of expectant treatment by the usual palliative measures; but "as soon as one has diagnosed definitely an encysted tumour of the tubes its removal must be set about, whilst a suitable time for the operation must be fixed upon." At the same time allusion is made to the benefit that may sometimes be obtained, in cases where there is no distinct dilatation, by merely breaking down the adhesions, no part of the inflamed organs being removed. The rapidity with which the second volume has followed the first is highly creditable to all concerned, and we hope that the remainder of the work will be equally fortunate.

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1. *L'Opium: ses Abus. Mangeurs et Fumeurs d'Opium, Morphinomanes.* Par le Dr. E. MARTIN, ex-Médecin-Major de l'École Polytechnique et de la Légation de France à Pékin, Lauréat de l'Académie de Médecine. Paris: Société D'Editions Scientifiques, 4, Rue Antoine-Dubois. 1893.
2. *The Indo-Chinese Opium Question as it stands in 1893; or, Are the Constitutions of the Millions of British India to be Sacrificed?* By ROBERT NEEDHAM CUST, LL.D., late Member of Her Majesty's Indian Civil Service. Hertford: Printed by Stephen Austin and Sons. 1893.
3. *The Opium Question in Lower Bengal.* By J. MUNRO, formerly Commissioner in Bengal and late Chief Commissioner of Police, London. Reprinted from the *Indian Church Quarterly Review.* Calcutta: Oxford Mission Press. 1893.

SELDOM has any question of universal interest and of paramount importance to many millions of the people of India under the rule of Great Britain [as opium undoubtedly is] been considered by more competent and skilled inquirers than the three writers whose recent contributions to our knowledge of the subject are noted above.

The first-mentioned is a French surgeon of repute, whose personal and official experience in China has been supplemented by a thorough scientific examination of the nature and properties of the drug in its social, physiological and therapeutic aspects, to the elucidation of which the most advanced methods of research have been applied.

The two others are distinguished members of the Indian Civil Service, who have long dwelt amongst the natives of the provinces in which they served, and who have therein held high judicial and administrative offices in which they acquired an intimate knowledge of the languages and the manners, customs and social habits of all classes and every rank of life. These are rare qualities for recording with rigorous exactness the nature and extent of the uses and abuses, where they existed, of opium in the forms and extent in which it was in general use. To all the above qualifications they added a pronounced and avowed missionary bias, which affords additional proof, if any were needed, of the thorough sincerity of their motives in placing the exact facts on record, to prevent what in their belief would be a gross and unjustifiable injury to those whom they feel bound to protect and who are unable to protect themselves.

The work of Dr. Martin is one of a series of scientific treatises on physiology, and was not written with any special or intentional reference to the controversies which have arisen in this country on the subject. It is devoted to a condensed history of the poppy, its cultivation and products, brought down to the present time and embracing all the countries in which opium is in general use, beyond pale

of its employment in medicine. This is followed by chapters on the preparations of opium, its action on the organisms of man and animals, and its abuses in the case of the former. It contains a special study of the physiology and chemical nature of the smoke of opium, produced and used as an indulgence, and includes a reference to the treatment of the various practices resorted to for that purpose, with the conclusions to be drawn from the above considerations. To deal with these in detail would be out of place in the necessarily restricted limits of the notice of such a work. In the work itself will be found the materials necessary to form a correct judgment of the subject without special reference or application to the collateral issues raised on the "burning question." Dr. Martin classes the abuses of opium under three categories: 1. Morphinomania, which is confined to Europe, is the most recent and worst misuse of the active principle of the drug and, in his opinion, the most redoubtable of all. 2. Opium eating, which is the special form prevalent in the countries of its origin, the East, is often a useful practice, of which the abuse is rare and which has been singularly exaggerated. 3. Opium smoking, incriminated by some and abused by others. Dr. Martin thinks that the scientific information contained in his researches has now placed the opium question upon a reliable basis for future consideration. He considers the consumption of opium to be chiefly dreaded from its tendency to degenerate into an inveterate habit, of which the results are disastrous to those who are its victims. He consequently regards it as an incentive to crime under the shelter of irresponsibility; but this quality it shares with every stimulant indulged in by mankind when carried to excess, and of none is it more true than of alcohol.

Opium smoking is not, however, an Indian vice, so rarely is it practised amongst the natives. The evidence collected regarding the supposed connexion of the opium habit with crime, physical and moral degeneracy, and the other evils attributed to it in other countries, does not give the least countenance to such views as applicable to India. On this point the experience of Mr. Munro when chief of the Police Department of Bengal, embodying as it does a knowledge applicable to more than seventy millions of people, is interesting. Although the extract is somewhat long, it is deserving of reproduction *in extenso* for the information of a much more extended class than that interested only in the missionary view of the matter.

He says: "Passing now from the consideration of the general consumption of opium by the population at large, let us look at the facts as regards the effect of the use of the drug on the habits of the people, and specially with regard to the connexion of opium with crime. That in Lower Bengal there are classes of the population who indulge in opium to excess and that such over-indulgence is pernicious, there is no doubt whatever; and no one defends such excess. But the opium den is not the place to judge of the effects of the consumption of the drug on the people, especially when the number of these dens is, as has been shown, so limited. If the vice is general, if its consequences in any way affect the people at large, those consequences will be visible in the villages and homes of the inhabitants, they will affect the life and habits of the villagers—for be it remembered the real life of Lower Bengal is in the villages—they will spread far beyond the limited sphere of influence of the opium shop. Are there any such consequences, then, visible in the villages? Let any one who is impartial make inquiry, and he will find that on the life of the people of Lower Bengal the consumption of opium has no appreciable effect whatever. Were it otherwise, and were the population debauched and demoralised as represented, surely the recent census would have shown some diminution of population, instead of an increase of nearly 8 per cent., and the opium-devastated population of 66,000,000 in 1881 would not have increased to upwards of 70,000,000 in 1891—a fact which no amount of 'burning moral convictions' can gainsay or controvert, except at the sacrifice of truth. Are the tendencies of the people in districts which consume opium more criminal than those of other districts in which the drug is sparingly used? The answer is distinctly in the negative. The division of Orissa, which consumes most opium in Lower Bengal, is the least turbulent and troublesome in criminal respects in the whole province; in the turbulent districts of Eastern Bengal, such as Dacca, Backergunge, Mymensingh, Khoolna, Jessore and Pubna, the consumption of opium is trifling. During the years in which I was at the head of the police in Lower Bengal I can testify that the use or abuse of opium formed no perceptible factor in the production of crime throughout the province. No case in which the connexion of crime with opium was established ever came under my notice."

The second of the works under review is by Mr. Robert Cust, whose official career was passed in the Punjab and North-West Provinces, in which the habitual use of opium is well-nigh universal. Regarding himself, Mr. Cust says: "It is not unknown that for half a century I have made the subject of Christian missions all over the world my special study and that the work of the Bible societies is my special delight. During the quarter of a century from 1843 to 1867 that I spent in British India as an administrator in both the Revenue and Judicial Departments I acquired a practical knowledge of the system in force for the government of that country, and dwelling amongst the people in close intimacy I acquired a great love for them and any wrong inflicted upon them I learned to look upon as a personal wrong, and I care not from what quarter that wrong comes I am ready to be their champion against the Government of the country, the manufacturers of Manchester, the injudicious missionary or the sensational association of good men and women in England who lift up one corner of the great governmental carpet which is spread over British India, and fret if the pattern and texture are not precisely according to their own preconceptions, their own narrow experiences and their own hastily formed prejudices. I feel sure that the amiable members of such associations do not wish to injure the people of India by their wild and hopeless crusade against caste, the cultivation of the poppy, the controlled sale of intoxicating liquors and drugs, the marriage of infants and other fond schemes of benevolence. My first position is that irresponsible parties in Great Britain had better leave the domestic affairs of the people of India alone and turn to the blots in their own country, the drunken habits of the most drunken nation in Europe, the sexual profligacy of our great cities, and the sad sufferings especially of the female poor in the metropolis." He considers the examples of the abuses of the drug in his field of observation to be so few and far between, as to be practically non-existent; whilst he found that the most healthy, law-abiding, manly and moral classes of the population were amongst the opium consumers. The late census proves, in his judgment, that there is no moral or physical degeneration amongst them, and that to disturb the existing arrangements would not only compel a resort to really soul and body destroying stimulants, but would act very injuriously upon the comfort, happiness and well-being of millions of our fellow subjects, even to an extent that might imperil our hold upon the brightest jewel in the British Crown. In his statement are contained the data on which his conclusions are based, and they are well deserving of careful study by all who value truth in dealing with social questions of such magnitude and importance.

It is singular and suggestive that the third authority, Mr. Munro, considers the question for the Lower Provinces in much the same manner and on the same lines as were adopted in the case of Upper India and the Punjab, where the consumption of opium is so much greater. His views on the relations of opium to crime and the general condition of the population

of the vast territory in the sphere of his action as magistrate and chief of police have already been quoted. In his concluding remarks on this branch of the question he reiterates emphatically his assertion, "on the basis of criminal statistics and criminal experience, that the use or abuse of opium is not to any appreciable extent whatever a factor in the production of crime in any of the districts in the province of Lower Bengal." He denies that it exerts any adverse influence on missionary enterprise, and considers that the connexion of the Government with the traffic renders it liable to no reproach whatever in any point of view. He regards all severe prohibitory measures forbidding smoking in what are denominated "opium dens" as unwise and mischievous, as they would have the effect of relegating indulgence in this vice to unlicensed premises, to clubs or similar associations, or to the family circle. In fact, he questions entirely the policy and propriety of the anti-opium crusade, and quotes figures in support of his views, concluding in the following words:—"When, therefore, the question of the adoption of a policy regarding the consumption of opium in Lower Bengal is under discussion by missionary bodies, may they not profitably consider whether they should not use their strength to aid in removing an evil which is a fact [the use of gunjah], instead of wasting their efforts in trying to stay a demoralisation of our fellow subjects at large which is *not a fact*, however 'burning' may be the 'moral convictions' of those who have persuaded themselves to believe, and wish others to believe, in its reality as regards the Lower Provinces of Bengal."

The Antiseptic Treatment of Typhoid Fever. By A. M. ANDERSON, M.D., L.R.C.S. Edin., Medical Officer of Health, Dundee. Dundee: Printed by John Leng and Co., Bank-street. 1892.

THE author here records twelve cases of typhoid fever which he has treated antiseptically by means of salol, in all of which, with two exceptions, recovery took place. From 205 to 1245 grains of the drug were used and Dr. Anderson is firmly convinced that, although it is impossible to save every patient attacked by typhoid fever, the antiseptic treatment that he describes, when "properly applied on or before the tenth day of the disease, is infinitely the most powerful and rapidly curative agent ever yet tried in the treatment of typhoid." The temperature is reduced and the condition of the patient begins to improve as early as the fifteenth day of the disease, and there is a steady, tranquil, daily progress towards health. The tongue becomes clean and moist; the delirium, dilatation of the pupils, trembling and other nervous symptoms cease; the patients regain perfect consciousness, the pulse falls to normal or below normal, the tenderness over the ileo-cæcal region disappears and the diarrhœa not only becomes less severe, but the stools become much less offensive; the patients are able to take much more nourishment. Dr Anderson maintains that the stools by this antiseptic treatment are rendered perfectly harmless, the specific bacteria apparently being killed whilst still in the alimentary canal; thus they are incapable of propagating typhoid fever, and the patient is no longer a centre from which other cases may become infected. Full descriptions of the cases, with temperature charts from which the course of the different cases may be followed at a glance, are given. Dr. Anderson used for his experiments the same antiseptic that has been used by Hueppe in the antiseptic treatment of cholera, and the report of these cases forms an interesting addition to the cases already on record.

LIBRARY TABLE.

Archives de Neurologie. Paris: Bureaux du *Progrès Médical*. Vol. XXV., No. 74.—The last number of the *Archives* maintains, perhaps enhances, the reputation of this excellent publication. The two leading papers are: one by Charcot on Amyotrophic Lateral Sclerosis and its Differential Diagnosis and the other by Grasset on the Vertigo of Ataxics. There is also an interesting account of a case of primary progressive myopathy of the Landouzy-Dejérine type both in its clinical and pathological aspect and a paper on Congenital Idiocy, with numerous illustrations; the fact that Bourneville is part author of the last will indicate its character. There is the usual comprehensive and interesting review of current literature.

The Quarterly Journal of Microscopical Science. Vol. XXXIV., Part 4, April, 1893. London: J. & A. Churchill.—This part contains seven articles—1. W. Blaxland Benham, D.Sc. Lond.: Description of a new species of Moniligaster from India, with plate. 2. By the same author: Note on a New Species of the genus Nais, with plate. 3. E. S. Goodrich: A New Organ in the Lycoridea and on the Nephridium in Nereis diversicolor, with two plates. 4. Edgar J. Allen: The Nephridia and Body Cavity of some Decapod Crustacea, with three plates. 5. E. Ray Lankester: Note on the Cœlom and Vascular System of Mollusca and Arthropoda. 6. F. W. Gamble: Contributions to a Knowledge of British Marine Turbellaria, with three plates. 7. Florence Buchanan: Peculiarities in the Segmentation of certain Polychætes, with a plate. This part terminates Vol. XXXIV.

Formulaire Obstétrical, Illustré. Par le Dr. A. AUVARD, Accoucheur des Hôpitaux, Paris. Rueff et Cie., Éditeurs, 106, Boulevard Saint Germain.—*Formulaire Gynécologique, Illustré.* Par le Dr. A. AUVARD, Accoucheur des Hôpitaux, Paris. Rueff et Cie., Éditeurs, 106, Boulevard Saint Germain.—These are two books published in the same month by the same author and having the same introduction, in the one *malades gynécologiques* being substituted for *cas obstétricaux* in the other. We cannot understand for what class of readers such compilations are made. In the volume treating of obstetrics 100 supposed cases are dealt with, each being illustrated by a diagram which, so far as scientific precision is concerned, is very unsatisfactory. The same arrangement exists in the gynæcological volume. To do justice to the compiler we must admit that a fair abstract of treatment in each case is given, which apparently is the *raison d'être* of the volumes, for he says: "L'ouvrage que je publie, et auquel j'ai donné le nom de Formulaire, est analytique et forcément incomplet, car il ne prend qu'une série de cas pour en indiquer le traitement." We congratulate the publishers on the beautiful get-up of the volumes, the printing and *technique* of the illustrations being excellent.

THE PHARMACEUTICAL SOCIETY.—The annual dinner of the members of this Society was held on Tuesday last in the Whitehall Room of the Hôtel Métropole, under the presidency of Mr. Michael Carteighe. Amongst the guests were Sir Andrew Clark, Mr. Thomas Bryant, Sir E. Sieveking, the Presidents of the Medical Society of London, of the Clinical Society, of the Harveian Society and of other societies more or less closely connected with medicine. Altogether a very distinguished company assembled on the occasion. Amongst the toasts was that of "The Houses of Parliament," which was proposed by Dr. Farquharson and responded to by Mr. Townsend, who remarked that he did so as a pharmacist. Sir Andrew Clark, in replying to the toast of "The Medical Profession," proposed by Mr. Cross, said that the profession deserved all the confidence and goodwill the proposer had expressed. As to the Pharmaceutical Society, its work had been pursued with loyalty, consistency and truthfulness. The toast of "The Learned Societies" was responded to by Sir F. Abel, who said that the Imperial Institute had a most intimate connexion with the pursuit of the pharmacist. From all parts of the world it was collecting a vast store of material which would be of interest also to medical men. Mr. Carteighe, in reply to the toast of "The Pharmaceutical Society," urged all engaged in the trade to join the Society. Professors Armstong and Tilden acknowledged the toast of "The Visitors," after which the guests separated.

Analytical Records
FROM
THE LANCET LABORATORY.

REGINARIS AND FERRUGINARIS—NATURAL MINERAL WATERS.

(REGINARIS, LIMITED, 110, SHAFTESBURY-AVENUE.)

IRON in solution as protocarbonate generally abounds in the natural effervescing waters of the German springs, but on exposure to air it is invariably and completely deposited in the form of oxide. The waters, styled respectively Reginaris and Ferruginaris, are bottled at the spring of Niedermendig; the former is clear and bright—doubtless bottled and aerated after standing—and the latter is turbid from the presence of oxide of iron. According to our examination, however, there is little iron in solution. Except for the turbidity due to iron it has practically the same composition as Reginaris. Reginaris is a pleasant, sparkling water of marked organic purity and, notwithstanding the superabundant gas it contains, is smooth and agreeable to the palate. One pint, we find, is antacid to the extent of, and equal to, 26·46 grains of bicarbonate of soda, whilst the total minerals, consisting chiefly of the carbonates of lime, magnesia and sodium, amount to 169·96 grains per gallon. Of these nearly 60 grains are due to salt.

SCOTCH WHISKIES.

(D. LENNOX & SONS, DUMFRIES, AND 41, PALL-MALL, S.W.)

Experience in the chemical examination of whiskies almost invariably shows that the superior kinds are those which contain the highest proportion of spirit; the price of whisky varies, in fact, directly as the proportion of alcohol, and a very fair guess of the alcoholic strength of a spirit may be made by reckoning the number of shillings per dozen bottles as parts per cent. of absolute alcohol by weight. The chief variations in the composition of variously priced whiskies and an illustration of what has been said are seen in the following analyses obtained with the samples submitted to us from the above firm. No. 1 (48*s.* per dozen) is a blend of specially selected Scotch whiskies and contains: Absolute alcohol by weight, 48·05 per cent., by volume, 55·83 per cent.—equal to proof spirit 97·85 per cent.; extractives, 0·09 per cent.; ash, 0·01 per cent.; acidity, reckoned as acetic acid, 0·021 per cent. The flavour and aroma testify to the skill and care with which this spirit has been produced, whilst its mellowness is evidence of the ripening influence of long storage. No. 2 (42*s.*) is a choice and old Highland whisky, which gave the following results on analysis: Absolute alcohol by weight, 42·29 per cent., by volume, 49·81 per cent.—equal to proof spirit 87·29 per cent.; extractives, 0·16 per cent.; ash, 0·01 per cent.; acidity, reckoned as acetic acid, 0·040 per cent. It is, like the previous sample, a wholesome spirit, smooth to the taste and a skilful blend. No. 3 (36*s.*) is a spirit of satisfactory quality, suitable for ordinary use; as the following figures show, it contains less alcohol than the previous samples; the price is lower, but the taste is destitute of all raw character. Absolute alcohol by weight, 41·05 per cent.; by volume, 48·48 per cent.—equal to proof spirit 84·96 per cent.; extractives, 0·21 per cent.; ash, 0·01 per cent.; acidity, reckoned as acetic acid, 0·05 per cent. No. 4 (36*s.*) is a similar spirit, containing: Absolute alcohol, 38·75 per cent. by weight; by volume, 47·08 per cent.—equal to 82·50 per cent. proof spirit; extractives, 0·21 per cent.; ash, 0·08 per cent.; acidity, reckoned as acetic acid, 0·033 per cent. It is a genuine malt whisky. Lastly, No. 5 (36*s.*) is described as an old Highland whisky consisting of a blend of north country whiskies only. It yielded on analysis the following results: Absolute alcohol by weight, 39·80 per cent.; by volume, 47·13 per cent.—equal to proof spirit 82·59 per cent.; extractives, 0·12 per cent.; ash *nil;* acidity, reckoned as acetic acid, 0·026 per cent. The samples throughout were free from acidity and from an excessive quantity of extractives, No. 1 being the best in both these respects, as also it is undoubtedly the spirit of the finest quality and character. It may be recommended, therefore, in those cases where especial purity of spirit is desired. The smell evolved on heating the residues obtained on evaporation of the samples gave clear indication of the genuineness of the products.

WHOLE WHEAT FLOUR WITH HYPOPHOSPHITES.

(L. RAWSTHORN, GREEN BANK MILL, PRESTON, LANCASHIRE.)

The hypophosphites of lime, soda and iron have been added to this flour with the view mainly of increasing its food value, especially in regard to bone-forming constituents. Our analysis soon discovered a slight abnormality in the composition of the flour, inasmuch as the mineral matter was found to exceed that of ordinary flour by 0·8 per cent.—that is to say, it contained just twice the normal amount of mineral matter. This is partly due to the employment of the entire wheat and partly, as analysis further elicited, to added minerals in the shape of hypophosphites. The cold water extract gave some evidence of the presence of the latter bodies, as on treatment with hydrogen *in statu nascendi* (by means of zinc and sulphuric acid) the characteristic smell of phosphuretted hydrogen was perceptible, whilst a paper moistened with silver nitrate solution when immersed in the issuing gns was distinctly blackened. Confirmatory of this result, nitro-molybdate of ammonia, together with sulphurous acid, gave a blue colour due to reduction of the molybdenum salt by the hypophosphites. The flour is evidently of high quality and was found to contain a fair proportion of branny material. The preparation is a novel one and might be tried with advantage where impoverishment due to lack of bone-forming material in food is suspected.

MINERAL WATER OF SANTEUIL (SEINE-ET-OISE), CONTAINING LITHIA SALTS.

(LONDON DEPÔT: C. S. JUDD & CO., 15, SWALLOW-STREET, W.)

This water is derived from the spring of St. Jean, Santeuil (Seine-et-Oise). It is pleasantly sparkling and is charged to a slight extent with mineral solids, in which, according to our spectroscopic observations, lithium occurs in important quantity. The water is accordingly, and on reasonable grounds, advocated as of value in the treatment of lithiasis and kindred disorders. The total solids, amounting to 23·24 grains per gallon, were found to contain no appreciable extent of organic matter. The water is corrective to the extent of, and equal to, 4·41 grains of bicarbonate of soda per pint.

THE GRIMSBY AUTHORITIES AND PRECAUTIONS AGAINST CHOLERA.—An interview was held on Tuesday, the 16th inst., between the Grimsby sanitary authority and Mr. Thompson, the representative of the Local Government Board, on the subject of the recommendations of the Board to the Grimsby port sanitary authority. Its recommendations involved a considerable outlay, and in regard to the likelihood of Imperial financial aid Mr. Thompson could only refer the committee to the reply of Sir William Harcourt to the member for Grimsby. The committee thought that the authorities should inform the Local Government Board that the town could not afford to carry out the recommendations. If it was a serious thing for the country to get cholera, it was a serious responsibility for the President of the Local Government Board to take upon himself not to make proper representations to the Chancellor of the Exchequer. This view was unanimously confirmed. Mr. Thompson replied that he would report this to the Local Government Board, but pointed out that in the meantime the responsibility of protecting the inhabitants of Grimsby rested with themselves.

THE LANCET.

LONDON: SATURDAY, MAY 20, 1893.

THE recent debate in the House of Commons on the subject of vaccination raises a number of very important considerations both for the public and for the medical profession; but with the exception of the excellent defence of the system of compulsory infantile vaccination which was made by Sir WALTER FOSTER, the Parliamentary Secretary to the Local Government Board, it is impossible to regard the debate as in any way satisfactory.

In the first place, the attitude of the Government calls for notice. Mr. HOPWOOD'S motion to the effect "that the law compelling vaccination of infants and young persons is unjustifiable and ought to be repealed" was a direct attack upon the administration by a public department of the law of the land, and it was in his official capacity as a member of the present Government and on behalf of the Local Government Board that Sir WALTER FOSTER opposed the motion. It is a rule that when a Government department is assailed and defends itself in the House, the Government whips act as tellers in the division, but on this occasion Sir WALTER FOSTER found himself abandoned by the Government; the Cabinet were, with but one or two exceptions—notably Mr. FOWLER—absent from the House, and the Government left one of their Parliamentary secretaries to defend himself, to find his own tellers and to meet the attack just as if he had been the most obscure of private members. *The Times* very properly describes the Government's action in this respect as a "weak-kneed half-surrender"; and there are many who feel that if Sir WALTER FOSTER had been a member of some other than the medical profession—for example, of that profession to which Mr. HOPWOOD belongs—no such slight would have been put upon him, and, through him, on the department for which he acted; but as the matter stood members were led to understand that the Government had no interest in the protection of young children against preventable disease and death, and that they were free to give their first thoughts to the importunate faddists amongst their constituents. Hence the majority by which Mr. HOPWOOD'S motion was thrown out was by no means so great as it otherwise would have been.

Then, again, the debate was unsatisfactory in so far as it dealt with a subject which has been submitted to a Royal Commission, a body which, as Sir WALTER FOSTER reminded the House, can never be reproached with not having given sufficient time and attention to the views taken up by the anti-vaccination party. Sir WALTER FOSTER urged that the motion was "inopportune"; but here again he had the Government against him. When the Royal Commission reported last year against repeated penalties we pointed out that their recommendation was flagrantly inopportune since it dealt with an amendment of the existing law, a point referred to them by the Government but as to which they had as yet not taken evidence; and Mr. MATTHEWS, then Home Secretary, declined to bring in a Bill dealing with the subject on the very ground that the Commission had reported on a matter as to which they had submitted no evidence whatever. But the present Home Secretary has acted in just the reverse manner. Matters remain precisely as they were last session; the Royal Commission have, even now, not yet commenced to take evidence on the sixth question submitted to them—namely, "Any improvements that can be suggested in the present law or its administration"; but Mr. ASQUITH has not only announced his intention to give effect to the premature report of the Royal Commission, but his Bill has been read a first time. Sir WALTER FOSTER thus entered the lists heavily weighted by the action of the Government and that of the Royal Commission itself, and Mr. HOPWOOD cannot be blamed for endeavouring to snatch a vote at an inopportune moment when he has such examples before him as those to which we have referred.

The debate was unsatisfactory from another point of view. Mr. HOPWOOD, who spoke for over an hour and a quarter, wearied the House by his style and the poverty of his arguments, and, apparently cognisant of his defect in the latter respect, he endeavoured to make up for it by personal abuse of JENNER, of public vaccinators, of the medical staff of the Local Government Board and of the medical profession generally. His action in this respect drew forth a protest from Sir WALTER FOSTER which was warmly received by the House, and it must be obvious to anyone who is capable of appreciating facts that, in so far as the pecuniary interests of the medical profession are concerned, that body has far more to gain by leaving small-pox uncontrolled than by endeavouring to stay its ravages amongst the population.

In dealing with so much of Mr. HOPWOOD'S speech as was worthy of answer, Sir WALTER FOSTER divided his argument under four headings. First, the motion was inopportune, inconvenient and injudicious. We have touched on this aspect of the question already and need not refer to it again. In the second place vaccination was a great means of saving life. Here he pointed out that whether our own somewhat incomplete returns of last century are taken, or whether we take note of the complete returns of Sweden, Copenhagen and other places, small-pox in pre-vaccination days annually killed from 2000 to 3000 out of every million living, whereas now the death-rate varies in different places from 130 to 178 per million. And, as he added, the more vaccination is practised the greater is the decline of small-pox attack and death, this point being emphasised by the well-known table of the Registrar-General as to small-pox deaths under the different phases of our vaccination law. Dealing especially with infants, he reminded the House that, taking a quarter of a million attacks of small-pox last century, no less than 90 per cent. were in infants under five years of age, wherens now such a thing as death from small-pox in a vaccinated infant is practically unknown. Comparing vaccinated children under ten years of age with the unvaccinated, he explained that had the former died at Sheffield at the same rate as the latter, the vaccinated children instead of showing nine deaths would have suffered 4400 deaths. Thirdly, the contention was that small-pox was lessened in its severity by vaccination. The prophylactic does not give immunity for all time, but protection from a fatal result from small-pox continues much longer than protection from attack. Many statistics were quoted as to this. Thus, of 89 adults

attacked at Leicester 82 were vaccinated and six, or 7 per cent., had confluent or hæmorrhagic attacks; seven were unvaccinated and all, or 100 per cent., had attacks of this class. In Leicester, again, 88 per cent. of the attacks in unvaccinated children were of the severe form specified, whereas in the seven vaccinated children attacked the disease was mild and even abortive. Much the same has just taken place at Manchester, as to which statistical evidence was given. Then came the old question of sanitation having caused the diminution of small-pox, a matter easily settled by the experience at Leicester and elsewhere as to nurses living under the same sanitary circumstances, the vaccinated escaping, the unvaccinated being attacked, too often fatally. And lastly, came the answer to the inoculation of disease—notably, syphilis and erysipelas. This was entered into with some minuteness, but we can only here recall the experience of Leicester, where the boast was—until small-pox came—that infantile vaccination had ceased. Now, during recent years infantile syphilis has, owing to improved diagnosis, increased its death-rate throughout the country. In England and Wales this syphilitic rate has gone up 25 per cent., but in Leicester it has gone up no less than 69 per cent. without infantile vaccination. And whilst in England and Wales with steadily maintained infant vaccination, erysipelas as a cause of death amongst infants has actually gone down 17 per cent., in non-vaccinating Leicester it has gone up 41 per cent.

UNTIL quite recently the unity of the fungus which produces the various forms of tinea has been taken for granted, though the question as to which family of fungi the trichophyton belonged had been often disputed. Before modern methods of cultivation were known it was considered to be a common mould by some, and to be identical with that of favus by others. Since the difficulties of making and keeping pure cultures have been overcome these views are no longer entertained. DUCLAUX and VERÜJSKY in France, whose results have been confirmed by LESLIE ROBERTS, have succeeded in obtaining cultures which fructify aerially, and the latter refers the fungus to the ascomycetes. Still more recently SABOURAUD has advanced the view that it is one of the mucedines of the genus botrytis, to which also belongs the fungus of the silkworm disease, botrytis bassiana, whilst he would call the ringworm fungus "botrytis trichophyton." Much more important than this, which is only of academic interest, are the experiments of SABOURAUD, according to which there are several species and many more varieties of botrytis which are responsible for different forms of tinea, many of which can be clinically distinguished either by the naked eye or by the microscope. FURTHMANN and NEEBE had previously made experiments which seemed to show four varieties of trichophyton; but those of SABOURAUD are more recent and appear to have been conducted with great care, whilst he disputes the botanical accuracy of FURTHMANN and NEEBE's deductions. SABOURAUD in each case which he investigated furnished an exact description of the clinical appearances to the naked eye and stated the age of the patient, the duration of the malady and any other points of importance. To the history of each case were attached permanent preparations of the hairs or scales for future reference, and at the same time cultures were made in order to discover what species of trichophyton had produced the objective lesion of the particular patient. The results of his first communication were founded upon 100 clinical observations with accompanying permanent microscopical preparations, 600 gelatine cultures, 60 drop cultures to note the chief botanical peculiarities and 20 inoculations which were made on man and animals.

Microscopical observations soon showed that there were two varieties of cases—one with large spores, the other with small. The large spores were from 7 μ to 8 μ in diameter—i.e., about the size of a red blood-corpuscle—all contained in mycelial tubes within the hair, and the spores never formed a sheath outside the hair. This form was found in 35 per cent. of the cases and was called by SABOURAUD "trichophyton megalosporon." The small-spore cases were in a decided majority, the spores were scarcely 3 μ. They were crowded irregularly together and were always without mycelium. They not only permeated the whole hair but formed a sheath round it. This he named "trichophyton microsporon." Nearly or quite all the cases of long duration—i.e., over a year—belong to this small variety. In twenty-one rebellious cases only one belonged to the large-spore species. In cultures of these two forms the same distinctions were preserved; in short, they cultivated "true," which is strongly corroborative of their being two distinct species. The cultivations were made on simple peptonised gelose (agar-agar), potato, liquid malt of beer, bouillon and gelatine, and after about a fortnight's cultivation the large-spore cultivation presented a dry powdery look to the naked eye, whilst the small-spore cultivation had a downy appearance. He endeavoured to distinguish the two clinically, guarding himself against more than a general statement.

Large-spore ringworm generally presents a principal plaque, usually large and irregular, with tufts of healthy hair encroaching on the border of the plaque, and as a rule with only a few secondary plaques. The hairs are broken off very short, often appearing only like black dots at the follicular orifices, a condition which SABOURAUD considers characteristic of the large-spore variety. In the small-spore variety the plaque is rounded or oblong, seldom more than two inches in diameter, and often smaller. Even at the commencement there are thickening and infiltration, so that the plaque is distinctly raised. The hair is usually fine, as if atrophied, and almost always the broken hair projects more than one-eighth of an inch.

In six cases of tinea barbæ in which there was no folliculitis the large spores only were found. He had no opportunity of examining cases of sycosis. With regard to the tinea circinata he more than confirms BALZER'S observations that in nearly all cases there were large spores and would omit the "nearly," so that whenever tinea circinata and tinea tonsurans are present in the same patient or in the same family the spores are large and the prognosis favourable. SABOURAUD therefore believes that the large spores belong to the epidermis and hair, whilst the small spores are parasites of the hair alone, or if they do grow in the epidermis they do not excite any lesions, whilst in the hair they produce a form of disease most rebellious to treatment. Besides these two main forms, which constitute almost all the cases, there are four other forms exceptionally met

with. Two of these have large spores with secondary differences only and may possibly be varieties of the original trichophyton megalosporon, but hitherto cultivations have remained hereditary and permanent; at all events, they are in all probability strictly human forms. In two other kinds the characters were very different from the original types, and though botanically belonging to the same group they are so very rare in man that they suggest a possible animal origin with an accidental inoculation in man. For instance, two cases had large but unequal spores, and the appearance of continuous uniting mycelium, so constant in the usual form, was absent. Clinically there was a large irregular patch in a girl aged ten, and the stumps looked like black points; the duration was a fortnight. Whilst in the main the cultures resembled those of the ordinary form slight differences were invariably found under all circumstances of cultivation. In a second large-spore variety, of which SABOURAUD met with nine instances, there were in some tinea circinata and a tendency to folliculitis—two in fact were cases of kerion,—and even on the smooth skin there was a tendenoy to vesiculation. He is inclined to think that is the only form which produces fo'liculitis, but further experience is necessary. This variety had a characteristic cultivation, which was very active, with a downy centre. Of the two forms, possibly of animal origin, one was contracted whilst the patient was returning from the Soudan and showed plaques on the buttocks and inside of the thighs. There was a great quantity of mycelium, some with spores, and the cultures were for the most part dark brown or almost black; some were a very deep yellow. Another form occurred in a man with tinea barbæ, which was exactly like an ordinary tinea tonsurans; it yielded a pale rose-coloured culture. The microscopical specimens were lost. SABOURAUD tried to inoculate himself with several of the cultures of different species, and although he was successful in a certain number of instances he had a very large proportion of failures and was not able to distinguish any clinical differences in the lesions produced according to the species inoculated. Clinically the results of his first series of observations are summed up as follows: Whilst the small-spore form constitutes by far the larger proportion of cases of ringworm of the head, and all or nearly all of the most obstinate cases, it never produces tinea circinata and probably never causes tinea barbæ, and there appears to be only one species of it. On the other hand, two large-spore forms furnish all the cases of tinea circinata and can only be differentiated by culture; the more common of the two also produces tinea tonsurans in 35 per cent. of all cases and all the cases in which tinea tonsurans and tinea circinata are associated in the same individual, and is nearly always the cause of tinea sycosis. The other varieties are of less practical importance.

Pursuing his researches, in another communication, SABOURAUD formulates some further important conclusions. The small-spore form being apparently uniform in its characters, he devoted himself to studying the large-spore form. After making many experiments to discover a uniform culture medium he found the most suitable one to be composed of wort of beer of a definite strength together with agar-agar. Analysis showed that the best formula was—maltose 37, peptone from 5 to 10, and water 1000. The potato was also a good culture medium, but of less definite composition. Culture on these media differentiated from 4 to 5 distinct species of large-spore forms and at least 19 varieties. Whilst the principal characters in all these were similar, the secondary characters differed from the type trichophyton megalosporon, the special characters being constant and not capable of modification by any means. From the clinical aspect he concludes that only two species show naked-eye clinical differences, and that it is improbable that we shall ever be able to recognise the exact species producing any case of ringworm of the scalp by the naked eye alone. The two recognisable forms are the trichophyton derived from the horse, which produces kerion Celsi of the scalp, and the trichophyton which he believes to be derived from the cat, when affecting the scalp, which extends over a larger surface than kerion and is accompanied by a marked dermatitis which is very finely vesicular and has the aspect of a burn. In tinea circinata, on the other hand, most of the species are accompanied by lesions as characteristic as their cultures in special media. Thus agminated folliculitis is produced by trichophyton of the horse; the supposed trichophyton of the cat produces a circinate dysidrosiform lesion with rapid extension; and in these two species and those resembling them there is a characteristic violet tinting of the part. The investigator hopes in time to recognise each species of trichophyton by the special characters of the cutaneous lesion.

We have given the above fairly full summary of the laborious researches which SABOURAUD has undertaken, as it is obvious that they are in many ways of practical value as regards diagnosis, prognosis and possibly prophylaxis, and it is probable that treatment founded on a sounder basis will also be available in the future if not immediately. Although the observations appear to have been conducted with scrupulous care, it is evident that so many definite conclusions require to be corroborated by other workers in the same field. Many of them could be verified simply by careful examination of each case clinically and microscopically, and it could soon be ascertained whether all the obstinate cases belonged to the small-spore form, whether all cases of tinea circinata had large spores, whether all the cases of kerion and agminated folliculitis had large spores and whether there was evidence of the patient having been exposed to contagion from a horse suffering from ringworm. These points and some others could no doubt be easily settled, whilst the researches by cultures could only be satisfactorily carried out by trained bacteriologists.

MR. BARFORD speaks with accuracy when he says that a very wide question is opened up by the decision of the magistrates of Eastbourne in the case which we reported in our issue of May 6th and upon which he dwelt in his letter which we published in the same number. Our readers will remember the facts. The case was that of a boy who had been removed from the Eastbourne Sanatorium thirteen weeks after the commencement of scarlet fever. According to the testimony of the medical attendant, Mr. HOLMAN, supported by his senior partner and by Mr. BARFORD, the medical attendant of the boy's family, the

process of desquamation had entirely ceased and the disease was at an end. The parents were anxious to have the boy home because, since the fever, he had developed heart disease. The medical officer of health, Dr. DUDFIELD, considered that desquamation had not ceased but was still going on behind the ears and in some other parts of the body. Mr. BARFORD was accordingly summoned before the magistrates of Eastbourne for sanctioning the boy's removal—in other words, for exposing a patient who was suffering at the time from a contagious disease—viz., scarlet fever. Dr. DUDFIELD was supported in his view by Dr. NEWSHOLME, the medical officer of health of Brighton. It therefore happened that there were on the one side the practitioner in attendance supported by two other gentlemen of large experience, and on the other there were two medical officers of health who, it may be said with all respect, could not be quite so much in touch with disease in its details and in its clinical aspects as general practitioners. The Bench, however, saw fit to adopt Dr. DUDFIELD'S view, acting under by-laws which, as Mr. BARFORD suggests, he may have had a hand in framing, and fined Mr. BARFORD 40*s.* and costs.

The decision seems to us a very serious, not to say a startling, one. We shall not affect to pity Mr. BARFORD much. He is a strong man, of very exceptional experience and sound judgment, and cannot be much hurt by the opinion of local magistrates in favour of a local medical officer of health. But in its principles and consequences we think the decision one that we feel bound to protest against very strongly indeed. No doubt it is right, even meritorious, that authorities of health resorts should be exceedingly jealous of the security of life and health in their districts and severe on those who wantonly imperil it. But when we consider the details of this case and the cautious action of the three practitioners we are driven to the conclusion that the zeal of the sanitary authorities of Eastbourne has outrun their discretion and that they have prosecuted a practitioner acting in the responsible discharge of his duties and in a way entirely consistent with reason and with the custom of his profession. In the first place, he was acting responsibly. We altogether refuse to admit that a medical practitioner is to be superseded in this fashion by a medical officer of health. The law of the profession and the law of the land alike throw on medical attendants the duty of deciding whether a patient is suffering from a disease or has ceased to suffer from it. We deny that any by-laws can affect these fundamental laws of the land and the ethics of the profession by which Dr. DUDFIELD is bound just as much as is Mr. BARFORD. Even if Mr. BARFORD and his colleagues had been shown to be wrong after waiting thirteen weeks for the completion of desquamation and honestly failing to see any traces of it, it would not have been one of those gross errors of judgment which a sanitary authority should blaze abroad and which the law should punish. Even malpraxis has to be very clear and unquestionable to subject a medical man to legal penalties. But here there was great care shown in the discharge of duty and ample time was given for the disappearance of the disease. A period of eight weeks is considered a long time for the continuance of desquamation. In the admirable volume just issued by the Clinical Society (on which we commented in a leading article in our last issue) on Incubation and Contagion, under the head of the "Duration of the Period of Infectiousness in Scarlet Fever," the longest period of desquamation mentioned in any instance is eight weeks; but in the Eastbourne case the period allowed was thirteen weeks, and at the end of that time the responsible practitioner, acting in perfect good faith, was brought into court and fined for exposing a patient suffering from a contagious disease. It is an interesting confirmation of Mr. BARFORD'S view that though the boy did not survive many weeks his return home, dying of heart disease, no other person was infected by him, although there were young people in the house. There may be other facts in the case which the reports to hand do not bring to light; but if they are not forthcoming Mr. BARFORD and his colleagues will have the sympathy and judgment of the profession on their side, and medical men will think it a serious matter to send their patients to a place where they may undergo prolonged imprisonment in the name of the law, without reason and without remedy, and where they themselves may be exposed to penalties for discharging their ordinary and their obvious duties. As was well said by a correspondent last week, Mr. BARFORD had a serious duty to his patient to perform, and to the firm discharge of that duty the friends of the boy owe it that they saw him once more before his death.

WE are accustomed to regard meteorology as one of the youngest born of the sciences. It is in reality one of the most ancient. It is as old as HESIOD, as ARATUS, as VIRGIL. All the ancient writers who treated of agriculture, which was naturally a common topic both in prose and verse, dealt largely with such subjects as signs of weather, prevailing winds, sunshine and rainfall. They recognised what is patent to the most superficial observer—that meteorological phenomena are under the control of law, and thus even in the infancy of science a certain amount of prediction was attainable in this department; but there is a true sense in which meteorology as a science is modern. It is modern in the recognition that law is not merely recognisable in broad outline or in a limited number of instances, but that it is universal and all-pervasive. Even primitive man could not fail to recognise that in the rising and setting of the sun, in the regular return of the seasons, in the general distribution of winds, of heat and moisture, uniformity within certain limits prevailed. It has been reserved, however, for the present age to look the question fully in the face, and to attempt the solution of the problem which is no longer regarded as hopeless—viz., how the occurrence of all meteorological phenomena—the storm, the shifting breeze, the passing shower—can be formulated and shown to obey a law as immutable as that which governs the eclipses of the sun or the procession of the equinoxes. It is practically certain that this can be done, but its accomplishment is not yet complete. Nevertheless, the progress already attained is great and the certainty of prevision—narrowly limited, however, in respect of time—now possessed by our meteorologists is one of the most striking of the recent gains of science.

In a recent number of the *Nineteenth Century* Prince KROPOTKIN gave an instructive summary of the recent progress of meteorology. He traces all modern developments

in this department to DOVE'S law, which is thus stated: "The air, greatly heated on or near the equator, rises in the same way as it rises in the summer over a sunburnt plain. On reaching the higher strata of the atmosphere it flows towards the poles, but owing to the speed of rotation which it has acquired in the lower latitudes it is deflected—to consider the northern hemisphere only—to the right, and blows in the upper strata as a current from the south-west. To compensate this flow air rushes on the earth's surface towards the equator, and as it also is deflected from its course by the same inertia of rotation it appears in the tropics as a trade-wind blowing from the north-east. However, the upper warm current does not flow all the way to the pole in the upper regions; it is gradually cooled down, and in about the thirtieth degree of latitude it begins to descend to the earth's surface, where it meets with the cold polar current. A struggle between the two winds ensues and it lasts until they make a temporary peace by blowing side by side, or one above the other, the struggle giving rise to storms and to changes of wind." This law remains the key to the great question of wind prevalence on this globe, but it came to be perceived that DOVE'S theory, whilst correct in the main and of immense value, was incomplete and left much unexplained. "In DOVE'S scheme the upper equatorial current, after part of it had been sent back to the equator, was entirely abandoned to itself to make its way as best it could against the opposed polar winds; but the existence of a strong, nearly permanent, and relatively warm upper wind blowing towards the east in our latitudes became more and more evident, especially since the movements of clouds began to be systematically studied and observatories were erected on high mountains; and this wind remained unexplained in DOVE'S theory." The necessary complement to DOVE'S law has been afforded by an American meteorologist (FERREL), whose view, based upon considerations as to the laws of motion of liquids and gases of different densities, is thus stated by the reviewer: "The air which flows from the equator to the poles maintains, not its velocity of rotation, as has been hitherto taught, but its energy of rotation, which means that it obeys the law of the preservation of areas; therefore, when it is transported from the equator to a higher latitude it is endowed (in the northern hemisphere) with a much greater eastward velocity than if it simply maintained its speed of rotation. On the other side, the air which is flowing from the higher latitudes towards the equator also obeys the same law and acquires a westward velocity, but much smaller than the eastward velocity of the former; this is why west winds have such a preponderance in our latitudes. Moreover, in virtue of the centrifugal force, all masses of air moving in any direction—not only north and south, but also due west or east—are also deflected to the right in the northern hemisphere and to the left in the southern hemisphere. Consequently the air flows in great spirals towards the poles, both in the upper strata of the atmosphere and on the earth's surface beyond the thirtieth degree of latitude, whilst the return current blows at nearly right angles to the above spirals in the middle strata, as also on the earth's surface, in a zone comprised between the parallel 30° N. and 30° S." This view has been widely accepted in America, Great Britain and upon the Continent, and would seem to mark an era in meteorology.

One of the most important features of modern meteorological work has been the explanation of storms and calms as due to cyclones, or areas of abnormally low pressure, and anti-cyclones, or areas of abnormally high pressure. By simultaneous barometrical observations over wide areas it has been found possible to predict the occurrence and movements of storms or the prevalence of continued calm. It has usually been taught that a cyclone is due to the local heating of the earth's surface and to an ascending current of warm air thus produced, but according to an Austrian meteorologist, J. HANN (quoted by Prince KROPOTKIN), this view cannot be sustained. By observations conducted in the Tyrolese Alps this observer claims to have shown that the ascending column of air within a cyclone is not warmer than the surrounding air; also that in an anti-cyclone the descending current of air is actually warmer than it is under normal conditions. His belief is that both cyclones and anti-cyclones must be considered as parts of the general circulation of the atmosphere, according to the views advanced by FERREL.

Annotations.

"Ne quid nimis."

THE MEETING OF THE GENERAL MEDICAL COUNCIL.

A REFERENCE to the minutes of the last meeting of the General Medical Council is enough to suggest that the approaching meeting on Tuesday next must be a busy one and one of more than usual interest. The reports of the new inspector and visitors on examinations will come up for discussion. The question of the Preliminary Examination of the Apothecaries' Society will again arise. The Society showed no willingness last year to abandon its Arts Examination. But the Council is known to feel strongly on the whole subject as one at the very root of medical education. Their direct powers are limited, but they cannot be denied a great responsibility in the matter, especially since the representations of the War Office with regard to the defects in candidates for their appointments and its determination to reject candidates on the ground of such defects. The subject of Medical Aid Associations is one of great interest to the profession and also to the public. But it is comparatively new to the Council, and the report of the committee appointed to consider the matter is awaited with much interest. Besides these questions, cases for the judicial consideration of the Council, the reports of all its committees and business arising under the Dentists Act will have to be dealt with.

THE ARMY MEDICAL SERVICE.

THE report of the proceedings which took place on the 15th inst. at the interview between a deputation from the Parliamentary Bills Committee of the British Medical Association, together with representatives of the Royal College of Physicians and the Royal College of Surgeons in Ireland, and Mr. Campbell-Bannerman, the Secretary for War, and subsequently with Lord Kimberley, Secretary for India, will be read with much interest by members of the medical profession generally and especially by members of the public medical services. The various points brought forward by the deputation and the suggested amendments in the conditions of army medical service were attentively listened to by the War Minister and the Secretary for India respec-

tively, and promises were given that the representations that had been submitted should receive careful consideration. Our views in respect of most of the points that were brought forward and discussed are well known. Years ago, and before the so-called unification of the Army Medical Service was an accomplished fact, we advocated that it should be organised as a Royal Medical Corps on similar lines to those of the Royal Engineers. We have since seen no reason for deviating from that view; on the contrary, the changes which have taken place in other branches of the service have tended to strengthen it. As regards foreign service, we have no doubt whatever that the old rates should be restored. The introduction of an extended tour of service in India, for example, was a retrograde step and a real grievance affecting the health of medical officers and the efficiency of the service, and we are glad to notice that the War Minister recognised that this subject required and should receive his earnest attention. We need not repeat what we have so frequently said about the extension of service of senior medical officers in the administrative ranks. We are opposed to it on principle. As to the proposed revision of titles it cannot be said that those with which medical officers are furnished at present are not ample enough. Brigade-Surgeon-Lieutenant-Colonel is an absolutely impracticable title. With regard to the reply of the Earl of Kimberley to the deputation we are glad to notice that he said he did not think the Indian Government would offer any serious opposition to the restriction of the present extended tour of foreign service if the War Office were to determine that the existing rule should be changed. Lord Kimberley, in what he stated about rank-pay of medical officers in India, was, it must be confessed, only consistent with the policy which the Indian Government has always maintained. He urged that they entirely objected to any expense by reason of warrants which were issued by the War Office without the consent and concurrence of the India Office. Due and ample notice of this objection was given in 1879 and had been adhered to ever since. It was possible that it might be shown there ought to be a revision of pay in India for the medical service, but that was a question which must be considered on its merits. We think that something will, sooner or later, have to be done in this matter, but the present is, unfortunately, an inopportune time for discussing it, as the Indian Treasury is embarrassed by the rupee question. As a matter of equity, however, we consider that when the station hospital system was introduced into India and a great annual saving effected, an additional allowance in the shape of charge-pay should have been made to those medical officers—of senior rank generally—who were appointed to the charge of station hospitals. The moral to be drawn from these deputations to Ministers lies on the surface—viz., that the medical services have only to persist in putting forward their case to obtain in time the concession of all that is just and right in their claims.

THE SPREAD OF SMALL-POX.

SMALL-POX still maintains its hold in a number of districts in England. The most important localities affected and the extent of the outbreaks are as follows: Birmingham 19 attacks last week, Bradford 36, Dewsbury 5, Halifax 12 (together with 35 in hospital), Jarrow, Keighley, Leicester and Warrington 6 each, Hull 4, Liverpool 17, Oldham 23, and the adjoining township of Chadderton 14, Salford 5, Sheffield 4, Wakefield 10, and West Ham 17. Amongst other places as to which either accurate details are not available or where the outbreaks are less severe are: Leeds (where over 40 fresh outbreaks occurred last week and where 156 cases were in hospital), Totley in Derbyshire (where the disease broke out amongst navvies and where 14 deaths have already occurred), Aston Manor, Barrow-in-Furness, Batley (where the disease has now prevailed over a long series of months), Bedford, Bingley, Birkenhead, Bootle, Bristol, Burnley, Coventry, Croydon, Derby, Devonport, Eccles, Exeter, Felsted, Gillingham, Handsworth, Isleworth, Middlesbrough, Nelson, Northampton, Nottingham, Oldbury (where 81 people—not including a single re-vaccinated person—have been attacked), Pontefract, Rawtenstall, Rotherham, Sandal near Wakefield, Southampton, Southport, South Shields, Stafford, Sunderland, Todmorden, Tynemouth, Walsall, Widnes and York. In the metropolis the disease still continues to spread, the number of cases under treatment in the Metropolitan Asylums Board hospitals on the 15th inst. being 571, by far the largest number for a long series of years.

DOMESTIC FILTERS AND THE PURIFICATION OF WATER.

THE drought happily appears to be coming to an end, but the welcome showers of rain must be continued for some time if our stock of water is to be adequately replenished. In the meantime, the water supplied for domestic use must necessarily have become less and less pure and the impurities which pollute the streams less attenuated. The increased proportion of suspended and dissolved impurities which are presented to the sand filters must greatly impede the filtering process, and if this process is hastened, and we cannot doubt but that the temptation must occur to do this, inadequate treatment results and water unfit for drinking purposes may be distributed in the mains. A continued season of dry weather is especially a time at which very careful regard to the treatment of water for drinking purposes should be given. The purification of water supplied to the consumer's house, be it from the pump or the main, may be effected thoroughly and efficiently if he will only exercise ordinary care and judgment in regard to the use of filters or to other treatment of the water. Water may be made fit for drinking by three processes—(1) treatment by precipitation, (2) by filtration, and (3) by boiling. In some cases it is advisable to combine the effects of two or more courses of treatment. The latter process (boiling), though of course efficient is not popular, because the water is rendered tasteless and insipid by withdrawal of the gases, chiefly oxygen and nitrogen, and part of the mineral salts in solution. Treatment by filtration is largely in vogue because it is simple and convenient. It is well known, and it is to be feared that it occurs in many instances, that filtration may render the water much less pure. A word therefore with regard to the choice and management of filters. The best and most effective filtering materials are those which not only remove organisms, matters in suspension or even soluble matters, but which exert an oxidising action upon the organic contents of the water and an aerating action upon the water itself. Such agents are *well-burnt* animal charcoal, spongy iron, magnetic iron, polarite and coke. For the mere removal of organisms filtration through kieselguhr and biscuit porcelain is effectual. Animal charcoal has grown into disrepute owing to the observation that the organic constituents of water in long contact with it decompose more rapidly than they otherwise would do, a fact which is probably accounted for by the presence in the charcoal of calcium phosphate, a material which favours the growth and development of low forms of life. If properly cleansed and frequently renewed, however, animal charcoal exerts a marked purifying as well as aerating effect upon impure water. Whatever medium is used every part of the filter should be easily got at for the purpose of cleansing or for the renewal of the filtering material. We have repeatedly drawn attention to the investigations of Dr. Percy Frankland upon the action of filtering agents, whose experiments showed that well carbonised coke was one of the best filtering materials that could be used. It is cheap,

can easily be renewed, and effects the removal of organisms better than any other material experimented with. A drawback to its use is the long preliminary washing it requires before the water becomes clear, owing to the presence in its multiple pores of tarry matters derived in the distillation of the coal. When foul it is still available of course for use as fuel. A common barrel of eighteen gallons capacity provided with a false bottom and filled with layers of respectively fine, medium and coarse pieces of coke, the latter at the top, has, in our own experience, answered admirably. Purification by means of precipitating agents has recently been the subject of considerable investigation, and the purifying effects of this treatment both as regards the removal of organisms and of suspended or dissolved matter are surprising. Purification by this means is best accomplished by the use of alum. This substance (two or more grains to the gallon will suffice) is decomposed with the formation of a flocculent precipitate (hydrate of alumina, Al_2O_3) which rapidly settles and carries down all suspended matter as well as a large proportion of dissolved organic matter. The precipitation is further attended with a very large if not complete reduction in the number of micro-organisms present. In response to inquiries that have reached us from numerous correspondents we strongly recommend this treatment in lieu of boiling, preliminary to passing the water through a filtering medium of well-known purifying powers, such as those we have enumerated. One of the best is, as we have already said, coke. The addition of alum does not interfere with the normal taste of the water, is itself eliminated as alumina in the sediment, removes some of the lime, and, above all, does not de-aerate the water as in the boiling process. By first precipitating, therefore, in the way suggested, and then filtering security is made doubly secure and the water so treated, which should not be insipid, may be consumed with confidence. It may be added that tartaric acid or citric acid has been found to be destructive to disease-producing organisms, notably the bacilli of cholera, and an ingenious filter has been constructed in which tartaric acid is first dissolved in the water and then neutralised and removed as calcium tartrate by means of chalk. At the same time the chalk yields carbonic acid to the water, which is thereby agreeably aerated.

PRELIMINARY SCIENTIFIC EXAMINATION FOR MEDICAL STUDENTS.

A REGULATION which has recently passed the Committee of Management of the Conjoint Examining Board in England will have a very important bearing on the preliminary education of future aspirants to the medical profession. Under a regulation dated April 27th, 1893, students may present themselves for examination in "chemistry, physics, practical chemistry and biology *before* registration." This is in many ways an important advance and accords with our suggestions reiterated over and over again, that the preliminary examination in arts and an examination in science should be passed at the earliest possible opportunity in the student's career. Whether this should be antecedently or subsequently to registration would formerly have been a detail. The General Medical Council, however, has now made imperative a five years' curriculum subsequently to registration, and it will therefore become a question as to how far this seeming boon to provincial students will prove to be a real one. We should recommend provincial students to study for these examinations at their own centres of education, but to make sure that they are at the same time registered as medical students. A study of any of the compulsory subjects of a medical curriculum with an attendance on the practice of a general practitioner are sufficient for the purpose of registration. It is obvious that if students cannot pass in these early scientific subjects it would be better that they should give up all idea of entering a profession in which the technical examinations are more difficult than the literary and scientific ones, and in this respect the change should act most beneficially. In addition to the ordinary London medical schools and one or two other institutions in the metropolis, colleges and schools at Aberystwith, Bradford, Bristol, Cheltenham, Chester, Clifton, Epsom, Hull, Newcastle-upon-Tyne, Reading and Swansea have been recognised for instruction in chemistry and physics and in some cases in biology also. It will thus be seen that the intention is that as much of the first examination in the preliminary sciences as can be studied in the country should be so studied; but we must point out that the present first examination of the Conjoint Board is decidedly unsatisfactory. The subject of chemistry embraces chemical physics, inorganic chemistry and organic chemistry, and a student who has not sufficient knowledge of physics is often rejected, although he may have satisfied the examiners as to his acquaintance with advanced chemistry. The converse frequently happens: a student has a good knowledge of physics and inorganic chemistry and is rejected in advanced organic chemistry. The subjects should be separated and many more questions should be set on the paper, and time should be devoted in the three branches for practical examination. A candidate who does not attain a pass in one branch should not be rejected in all three. The examination in elementary biology is even more unsatisfactory. Six months' instruction, theoretical and practical, is now required, and it is a most unjustifiable procedure that a ten minutes' *viva-voce* examination should be considered sufficient to judge of six months' work. Everyone conversant with biological teaching condemns the schedule as being wanting in exactitude and ill-defined, and yet examiners in the *viva-voce* examination wander even beyond the contents of an ill-drawn schedule. It will, therefore, be necessary for the Committee of Management of the Conjoint Board, whilst taking into consideration the institutions from which they will receive certificates of recognition of instruction, to arrange more thoroughly than at present for the proper and due valuation of such instruction.

THE CHEMISTRY AND PHYSIOLOGY OF FOLIAGE LEAVES.

A VERY suggestive paper on this subject was read before a recent meeting of the Chemical Society by Mr. Horace T. Brown, F.R.S., and Mr. G. Harris Morris, Ph.D. The work originated in an attempt to discover the explanation of the conditioning effect of "dry hopping"—i.e., the addition to finished beer of a small amount of dry hops. This was ultimately traced to the presence in the hop strobile of a small but appreciable amount of diastase, sufficient to slowly hydrolyse the non-crystallisable products of starch transformation left in the beer and to reduce them to a condition in which they can be fermented by the yeast. In endeavouring to ascertain if this occurrence of diastase in the hop strobile was an isolated case or a special example of a widely distributed property of vegetable tissue, the writers were led to inquire into the first formation of starch in the chloroplasts of the foliage leaf, the mode of its dissolution and translocation in the plant, and the nature of the metabolised products. The paper contains a great number of analyses of leaves of various plants, giving the amounts of diastase and sugars under certain conditions, and also a description of new analytical processes. The results obtained are regarded as entirely antagonistic to the assumption made by Sachs, that all the products of assimilation at some time take the form of starch. Cane sugar, Messrs. Brown and Morris find, is the first sugar to be synthesised by the assimilatory processes. This sugar accumulates in the cell-sap of the leaf parenchyma when assimilation is proceeding vigorously, and when the concentration exceeds a certain point starch commences to be elaborated by the

chloroplasts at the expense of the cane sugar. This starch forms a more stable reserve material than the cane sugar, and is only drawn on when the latter more readily metabolised substance has been partially used up. Cane sugar is translocated as dextrose, and lævulose, and the starch as maltose. From the invert sugar derived from the cane sugar the dextrose is more readily used up for the respiratory processes, and possibly also for the new tissue building, than is the lævulose; hence in a given time more lævulose than dextrose must pass out of the leaf into the stem. An interesting discussion followed, in which the President, Dr. Armstrong, Mr. Thiselton Dyer, Dr. Scott, Professor Green and Dr. Lauder Brunton took part. Dr. Brunton said that this research threw a light, not merely on vegetable physiology and chemistry, but on the physiology of animal life and also on that of the lowest organisms which could hardly be reckoned either as animal or vegetable. He thought that perhaps animal life in its turn might throw a light on vegetable physiology, and instanced the close resemblance that existed between the storage of glycogen in the liver of animals during digestion with its subsequent conversion into sugar and the temporary accumulation of starch and its subsequent removal from the leaves of plants. It was possible that more than one enzyme might be present in the leaves of plants, and he was anxious to know whether any observation had been made as to the presence of an enzyme in the plant which could decompose sugars.

MODEL WORKSHOPS.

IN the recently published report of the Chief Inspector of Factories and Workshops there is a brief but very significant chapter. So short is this chapter that we can quote it all without infringing on the limits of our space. It is entitled "Model Workshops" and quotes the following remark of Mr. Bowling, Factory Inspector of the Southampton district: "I wonder it has never struck philanthropic people, who are so ready to build model dwelling-houses for the people, how much good they might effect by building in all centres of industry blocks of model workshops which they could afford to rent to small masters at a lower figure than they now pay for the wretched rooms they work in, and which would even then show a fair profit." To this it should be remarked, firstly, that philanthropic people built model dwelling-houses, or rather common lodging-houses, after some of the municipalities of this country had set the example by building municipal common lodging-houses. Secondly, the very elaborate reports which we published on the sweating system, and which, by bringing about the nomination of the Commission on Sweating, were the indirect cause of the modifications now effected in our factory legislation, led us up to the conclusion that model workshops must be built. We argued at the time that though it is necessary to clear out the dens of infection where work is done under insanitary conditions it is equally necessary to simultaneously supply better accommodation. In a leading article published in THE LANCET of July 21st, 1888, we gave a description of a series of remedies which, it seemed to us, would most efficaciously contribute to abolish the sweating system. The following passage occurs in the article in question: "When the power and means of inspection are thus greatly extended so many unsuitable workshops will be discovered and closed that, as we have already pointed out, a great demand will arise for better accommodation. The proposals we made when dealing with this subject will meet the difficulty. When private slaughter-houses are abolished the municipality provides a public slaughter-house; in the same way and to preserve public health public markets are built. In the tailoring trade especially it is almost impossible to have a properly ventilated workroom without mechanical appliances. Power applied to the sewing machines would also prevent injury resulting from excessive use of the treadle by women. We therefore proposed that the municipalities should build great blocks of model workshops to be let out to tailors and others. The cost of one engine to provide power and mechanical ventilation, when divided amongst many workshops, would only slightly increase the rent of each, and the public would then have a sure guarantee that clothes were made up under the best sanitary conditions that science can provide."

THE EYE OF THE NEGRO.

IN the last number of the Transactions of the American Ophthalmological Society, containing the report of the twenty-eighth meeting held at New London, Conn., in 1892, Dr. Charles W. Kollock gives an interesting account of the peculiarities he has observed in the eye of the negro. It is well known, he observes, that the negro race in America is fast losing its identity as far as purity of blood is concerned, the mulatto being seen on every hand. Moreover, as one of the results of the great war, syphilis was introduced and spread extensively amongst them. Instead of the care that was formerly bestowed upon him by his owners, evil habits and careless living have taken possession of him, and to-day a race that thirty years ago was strong and healthy is now honeycombed with syphilis and its sequelæ. Before the war these people had little or no eye trouble beyond cataract; ulceration of the cornea, which now numbers its victims by the thousand, was almost unknown. Blindness or greatly impaired vision is found on all sides from this cause and the outlook is truly discouraging. Trachoma is comparatively rare; iritis is of very common occurrence and in point of frequency stands next to ulcerative keratitis. Dr. Kollock has only seen three cases of myopia and only one of these was as high as −7 D. High grades of hyperopia seem to be equally rare.

THE PREVENTION AND CURE OF PUERPERAL FEVER.

WE have received a little pamphlet containing the substance of a paper read on this subject by Dr. Pratt before the Leicester Medical Society last February. It aims at defining more clearly what is to be understood by the expression "puerperal fever," and also the means to be adopted for its prevention and cure. It is now generally recognised that there are at least two distinct groups in which cases of puerperal fever may be placed; one, corresponding to the so-called "autogenetic" class, comprises those cases due to the absorption of the chemical products of putrefaction, resulting from the decomposition of pieces of placenta or clots retained in utero. It is in these cases especially that there is likely to be an offensive discharge, and it is for these that most can be done in the way of treatment, when the symptoms indicate that we have to do with a case of puerperal fever of this nature. The offending matter must be thoroughly removed and the endometrium disinfected by an efficient antiseptic intra-uterine douche. In the other group of cases the disease is due to the inoculation of a poison, the smallest quantity of which is enough to produce the maximum effect. In these cases there is often no offensive discharge and no good is likely to result from intra-uterine douches or applications. Dr. Pratt speaks of having applied pure carbolic acid to the endometrium in two cases which recovered; one belonged to the autogenetic class and the other, he thinks, to the latter class, of which we have just been speaking. We see no objection to applying pure carbolic acid to the endometrium after the removal of a piece of putrid placenta, though we think an equally efficacious and preferable plan is to wash out the uterus thoroughly with an antiseptic solution such as iodine water. In the "heterogenetic," or infective group of cases, however, we do not see what good can result from swabbing the uterus with carbolic acid

when the symptoms are established and the whole system saturated with the poison. Although Dr. Pratt did so in what he regarded as a case of this kind and the patient recovered, it obviously does not necessarily follow that recovery was due to the local treatment adopted. It is not every patient who has a rigor and a high temperature after labour without an offensive discharge who is necessarily suffering from the infective form of puerperal fever. In this form of the disease, although the mortality is certainly very high, patients do recover apart from any special treatment other than general measures for maintaining the strength. We should rather agree with the authority quoted by Dr. Pratt that for such cases "prevention is the only cure." Fortunately the means to be employed for the prevention of puerperal fever are now well understood. The large majority of such cases are known to be due to the introduction of septic matter either on instruments or by the hands (and especially the nails) of the medical man, midwife or nurse. After washing the hands and making the nails thoroughly clean with a nailbrush, the hands should be well soaked in a (1 in 1000) corrosive sublimate solution before any vaginal examination is made. Instruments should be boiled after use, and before being used again should be dipped in 1 in 40 carbolic solution. It is to the adoption of such a system, as a matter of routine in every case, that we must trust to avoid the occurrence of the infective form of puerperal fever.

THE PATHOLOGY OF THE PRODIGY.

THE reports which have been published in the daily press during the last few days relative to the executive musical abilities of the child Raoul Koczalski are attracting considerable notice. The child is a prodigy. He is eight years of age and is so skilled a pianist that nothing seems to come amiss to him, a fantasia by Mozart being really child's play. In addition, he possesses what are considered to be original musical qualities, having himself composed as many as fifty pieces. Those who bring the child forward for public notice are said to treat him with every indulgence—a fact which may be readily admitted; and that applause is showered upon him by the unthinking audiences who listen admiringly goes without saying. This is all very well, but the question remains, Can any indulgence or any amount of applause render such an exhibition reasonable or even humane? It is clear that the child himself has no voice in the matter; he is really nothing more than a musical instrument—we had almost said divinely gifted—played upon as if he were an instrument in the hands of a master. The young brain is not yet fully developed physically; the cranium is not matured, and has not attained naturally to a size larger than that which belongs to simple childhood. If, therefore, the brain has been forced to a greater size than belongs to its age the condition is pathological, not physiological, and nature has been thwarted in her plans. A brain endowed with the capabilities of this child's brain is really destined, if allowed to run its healthy course, to become one of the mighty instruments of note and song when manhood has been reached and the full powers of observation have been brought into play. A brain cannot be twice formed in one person, and common sense dictates that as both knowledge and wisdom are as necessary for the perfection of musical art as of any other art or science, so in a case like this a great natural brain must be brought into action either in an immature or in a mature condition—in other words, either into a physiological or a pathological condition. Who that reflects for a moment will hesitate to conclude that, for the sake of music itself, the physiological training is pre-eminent in value? But then there is the commercial element. The prodigy is a find, and the selfish finder jumps at the conclusion that he must bring his find immediately into the market because it is a prodigy—that is to say, unnatural. The mistake is commercially an error, for, after all, true lovers of music and true supporters of musical art are not so blind as to support with any permanency these constitutionally lawless exhibitions. The wise in music wait for the perfected musician, and shrink as much from these immature displays of executive skill as they do from the forcing of a naturally fine vocal organ into premature brilliancy. We have dealt so far with the folly of the forcing system from a musical point of view alone, but a great deal more lies behind. It is a canon in animal physics that no single organ of the body can be forced without causing undue vibration and pathological change in other organs essential to life. We have therefore the physical health of the child before us as a subject for consideration. The strain to which the brain of a child under exhibit is subjected tells upon the heart, the respiration, the digestion, and the nutrition generally. With the increased vibration through the nervous system all the active organs of the body are driven sensitively into quickened pace and the additional vibration produced by encouraging applause is a further cause of danger. Thus on the purest grounds of humanity, to say nothing of utility, it is the falsest of false systems to magnify the prodigy at the expense of the developed man or woman. We believe there is not an instance on record in which true greatness has been attained by the forcing system now brought so strikingly before our eyes, and we should be altogether failing in our duty if we did not implore the sensible members of the community to make themselves conspicuous by their absence at all performances leading to the production of the pathological prodigy. At the best the gifts that make the prodigy are exceptional in the highest degree. They indicate the existence of a hyper-sensitive organisation, an organisation that requires special protection from all the natural shocks "that flesh is heir to."

CONGENITAL SPASTIC PARAPLEGIA.

IN the *American Journal of the Medical Sciences* Dr. Newmark of San Francisco has described some interesting cases apparently of this disorder. Dr. Tooth in last year's St. Bartholomew's Hospital Reports published some cases of similar character, a consideration of which suggested that as Friedreich's ataxy was a hereditary condition in which the morbid process seemed to fall with greatest weight on the posterior columns of the cord, so there might be an analogous disease in which the lateral columns were principally affected. Some time after Dr. Tooth's paper appeared a most interesting series of cases, occurring in the same family, was investigated by Dr. Sanger Brown of Chicago, a full account of which was published in a recent number of *Brain*. Briefly described, these cases in nearly every respect closely resembled the clinical picture of Friedreich's ataxy, but differed in the condition of the reflexes, which, instead of being abolished, were distinctly exaggerated, so that these cases seemed to form a connecting link between ordinary cases of Friedreich's disease and Dr. Tooth's cases. Dr. Newmark's cases belong distinctly to the spastic type. The first two are a sister and brother aged respectively fifteen and five. Their mother is a healthy woman and presents no abnormality except very active reflexes. The father is dead. There is a brother of twenty who is healthy and a sister of seventeen who, apart from an activity of reflexes similar to that present in her mother, is quite healthy. The mother has a brother who is said to have three healthy daughters. She also has a sister who, apart from having very active knee-jerks and a slight ankle clonus, is apparently healthy. She has borne seven children and the labour was difficult in every case. Of these seven, three died at or soon after birth, one died at eleven months from diarrhœa and three are living. The eldest is a boy of fifteen and has well-marked spastic para-

plegia with great contracture of the lower limbs. Intelligence is said to be good and also memory, but his speech is profoundly disturbed and he has been subject to apparently epileptic attacks. The second child living is a girl of eleven and she has exaggerated knee-jerks, whilst ankle clonus can be easily elicited. Any family tendency is apparently to be traced back to the maternal grandmother of these children, who is said to have been almost totally deaf from childhood and also to have been mentally deficient. In the second family which came under Dr. Newmark's care there are eight children living and three died during childhood. They were born healthy. Of the eight living, one (the second) is definitely spastic and has used crutches for five years. Nearly all the others also present some difficulty in walking, either actual stiffness or a lazy dragging walk; otherwise the children are well developed, and although there is no obvious mental deficiency they are described by their father as "dull and unambitious." There seems to be little doubt, on careful examination of the records of these cases, that they are examples of the congenital type of spastic paraplegia, and future observation may possibly confirm the hypothesis of the existence of a type as definite in its way as that of Friedreich.

THE TREATMENT OF HABITUAL DRUNKARDS.

THERE has seldom been a piece of more inadequate legislation than the Habitual Drunkards Act, under which the consent of the drunkard is necessary for his own treatment by detention. It would be as reasonable to require the consent of a publican to close his house during prohibited hours or that of a thief for his detention. The great weakness of a habitual drunkard is his inability to act with firmness and judgment in regard to his vice. This inadequacy has been recognised to be so great an absurdity that the late Government referred the subject to a Departmental Committee, whose report we noticed last week. Fresh legislation is inevitable if any good is to be done. The habitual drunkard is either a pitiable, helpless object or a very selfish one. On either theory it is right that his own volition should be less regarded in the treatment of his case and that a little wholesome compulsion should be applied to it. This will involve, no doubt, a great public outlay if it is to be done on an adequate scale; but if public law will facilitate drunkenness so much as it has done it is right that the public should bear some of the cost. We notice one great omission in these recommendations—that of a penalty on all persons, whether publicans or so-called friends, who knowingly supply drink to habitual drunkards. Without such provision there are plenty of persons, either wicked or foolish, who will be ready on the morrow of the release of the drunkard to urge him to take that which will undo all the good he has received.

TOXIC AMBLYOPIA FROM IODOFORM.

IN the April number of the *Ophthalmic Review* Mr. Priestley Smith relates a case which had come under his observation in which there seems no reason to doubt that the amblyopia which was present was a result of iodoform. So far as he has been able to find, the case recorded by Hirschberg in 1882 and that observed by Dr. E. Hutchinson in 1886 are the only ones on record in which amblyopia has been attributed to iodoform, and some doubt seems to have been entertained as to whether these were conclusive or not. The case observed by Mr. Priestley Smith was that of a man aged thirty-one, who was admitted into the Queen's Hospital, Birmingham, suffering from tuberculous disease. Iodoform was administered in pills at first in two-grain doses three times a day, later in doses of four grains eight times daily. In forty-one days he took altogether about 1000 grains. At the end of that time the drug was discontinued on account of toxic symptoms, especially amblyopia. The onset of this was associated with headache, giddiness and faintness, and there was also emotional depression. Diarrhœa was present and the urine became alkaline, whilst the taste and smell of iodoform were constantly present to the patient. On the third day after the iodoform was discontinued there were great drowsiness and slight ptosis on the left side. These disappeared next day, and there were numbness and tingling in the legs and the knee-jerks were increased. Four days after the drug was stopped Mr. Priestley Smith found the refraction normal and the media clear. There was slight haziness of the disc margin, but no distinct papillitis. Vision was greatly impaired, and there was a well-marked central scotoma, not for colours only, in each eye. Three days later the haziness of the discs seemed rather more marked, but the patient thought his vision was already improving. Vision gradually improved until, about three months after the onset of the amblyopia, it had risen to $\frac{6}{9}$ in each eye and no scotomata could be found. Although the patient had smoked about two ounces of tobacco a week before his admission, he had indulged only once—viz., on Christmas Day—during his residence in hospital. On that occasion he smoked about a quarter of an ounce. It was consequently about seven weeks after his discontinuance of regular smoking and three weeks after his solitary indulgence at Christmas that his symptoms began. During his recovery he resumed his smoking without any evident impairment of his progress, so that it seems as if tobacco may be almost certainly excluded as a cause of the symptoms, and that these must be referred to the iodoform.

THE TRANSMISSION OF CHOLERA BY MEANS OF FLIES.

IT has been proved that tubercle bacilli are found in the excreta and bodies of flies that have been feeding on phthisical sputa, and it has been suggested that it is possible for tuberculosis to be spread by these means. In the *Centralblatt für Bakteriologie und Parasitenkunde*, Band xii., p. 25, is a communication from Dr. Sawtschenko, who has found that cholera bacilli possessing all their virulent properties can be demonstrated for at least four days in the intestinal canal and dejections of flies that have been feeding on the stools of cholera patients or on the intestinal contents of those who have died from the disease. He also produces evidence to show not only that the bacilli pass through the intestinal tract of flies, but also that during the passage actual multiplication takes place. It is likewise an interesting fact to observe that the longer the interval of time which is allowed to elapse between the period of infection and the examination of the dejecta the smaller is the number of saprophytic organisms present and the larger that of the cholera bacilli. Control experiments were made with flies which had been prevented from incurring chance inoculation, and negative results followed. Dr. Sawtschenko, therefore, is of opinion that flies may act not only as carriers of the morbific agent of cholera, but also as hosts of the bacilli.

THE INTERNATIONAL MEDICAL CONGRESS.

FROM Rome, under date May 14th, our own correspondent writes: "The preparations of the Central Committee proceed at an accelerated pace, on the principle of *motus in fine velocior*. By the 30th ult. the provincial and territorial committees definitely constituted throughout the peninsula had reached the number of eighty and had received about 2000 written pledges of participation in the Congress. The national committees abroad, not including the subcommittees, amounted to thirty, and the pledges of participation from non-Italian countries were still coming in and already numbered over 1000. Many of these were accompanied by the titles of communications and special studies intended to be discussed before the Congress. In consequence

of the reports sent in by the Italian Consul at Calcutta and by others there interested in the Congress as to the views of the Viceroy and the steps taken *ad hoc* by his Government, the Central Committee has resolved to dedicate a part of Section XV. (Hygiene) to the exclusive discussion of cholera and of the precautions against it, notably quarantine. In pursuance of this resolution the Central Committee has addressed a memorial to the Viceroy, for presentation to his Excellency by the Italian diplomatic agent, craving the Viceregal Government to nominate a special commission charged to submit to the subsection of the Congress a report on cholera, with the conclusions and suggestions it has come to. As president of the subsection above indicated, Professor Cunninge has, it is announced, for some time been specially investigating the disease at its foci of origin. The Central Committee has, further, received from Buenos Ayres the announcement that Dr. Alberto Costa, Surgeon-Major of the Argentine forces, has been chosen by the President of the Republic to represent the medico-military branch of the profession at the Congress. As to the conveyance of the 'Congressists' the Central Committee has had to intimate that the directors of the Swiss railway companies have refused all reduction of fares. Apprised of this, the French agency of 'Voyages Économiques,' in accord with the French Committee of the International Medical Congress, is organising a special excursion for those of the 'Congressists' who, with their families, would like to make their journey to Rome through Switzerland *viâ* St. Gothard. By this means the 'Congressists' in question may travel at reduced fares, leaving Paris on Sept. 10th and returning from Rome by the same route about Oct. 6th."

A CREDITABLE DEPARTURE BY THE LONDON COUNTY COUNCIL.

THE new lunatic asylum at Claybury, near Woodford Bridge, of which Dr. Robert Jones is the superintendent, was opened on May 16th, when forty acute cases were received into the building. It is proposed to take about 200 cases per month until the asylum has received its full complement of 2000 inmates. We understand that it is the intention of the London County Council shortly to make the appointment of a pathologist to the five asylums under their charge. This officer will be specially attached to Claybury Asylum and will receive a stipend of £750 per annum. We welcome this new departure with satisfaction both in the interest of scientific medicine and on account of the evidence it affords of the growing recognition on the part of the public authorities of the value and importance of pathological research especially in the sphere of mental disease.

RECENT PREVALENCE OF FEVER.

THE returns for the week ended May 6th show a great increase in the number of reported cases of scarlet fever in the large towns—viz., close on 1500, compared with 1250 the week before. The chief increase has been observed in Croydon, Willesden, Birmingham, Sheffield, Bolton and Burnley. The proportion borne by London remained about the same—viz., one-third. Diphtheria showed an increase; the notifications numbered close on 400 weekly, compared with 350. The metropolis continued to contribute considerably more than half the cases. Enteric fever showed a marked diminution, and comparatively fewer cases were notified from London. The number of scarlet fever cases in the hospitals of London has shown a rise of nearly 100 in the last four weeks, and the number of admissions during the week ended May 6th was nearly 300. Diphtheria continues to be very fatal, the mortality being above the average by 34, and the number of patients in the hospitals shows an increase. An inconsiderable number of enteric fever cases remain in hospital. Typhus fever is reported from Cardiff, but up to May 6th only one case had been reported; there is said to be no proper means at disposal for isolating the disease. Barnsley is suffering from an extensive epidemic of measles and most of the schools in the place are closed. A smart outbreak of enteric fever is reported to have taken place near Swansea in a gipsy encampment. At Llandovery has occurred an epidemic of what was locally termed "black fever" and which was supposed at first to be typhus fever. It is, however, stated to be "infectious pneumonia," similar to that observed in Middlesbrough in 1888. It is reported to be abating.

TESTIMONIAL TO DR. ANDREW.

A WELL-ATTENDED meeting was held in the Great Hall of St. Bartholomew's Hospital on Wednesday, May 17th, under the presidency of Sir James Paget, at which it was decided to raise a testimonial to Dr. Andrew, on his retirement from the staff of the hospital, as a mark of appreciation of his long services to the hospital and medical school and as an expression of respect and affection towards him. A large and representative general committee was appointed, and an executive committee, consisting of Dr. Church as treasurer, Dr. Samuel West and Dr. F. W. Andrewes as honorary secretaries, and of the following members: Mr. Thomas Smith, Dr. Champneys, Mr. Bruce Clarke and Dr. Coates. The meeting terminated with a vote of thanks, moved by Sir William Savory, to Sir James Paget for presiding.

COCAINE IN GENERAL MEDICINE.

So many warnings of the likelihood of the use of cocaine internally leading to the formation of the "cocaine habit" have been received from America that it is interesting to find that an inquiry into this important question has been instituted in Philadelphia. Dr. Lewis H. Adler has sent over 150 letters to prominent physicians in that city with the view of ascertaining the experience of each one concerning the use of cocaine, the diseases in which it had been used, the doses employed, the results obtained (satisfactory or otherwise), any untoward effects noted or peculiar susceptibility to toxic effects, and, finally, the individual opinion of each writer as to the value of cocaine in general medicine. He has published a first instalment of the replies in the *International Medical Magazine* for April. From these there seems to be a widespread belief that much harm has already resulted from its indiscriminate use. Several writers refer to two medical men who have contracted the cocaine habit, and it is interesting to note that they were also addicted to the use of alcohol and morphine. The reasons for the employment of cocaine internally are very various. In a large number it has been used to allay, control or prevent vomiting, and it has given the most satisfactory results when its administration has been preceded by lavage to remove irritants before applying the sedative. It has also been employed as a cardiac stimulant and tonic, as a cerebral restorative or excitant, and as a diuretic. By several physicians it has been given in typhoid fever, in the latter stage of the disease, to combat the tendency to cardiac asthenia. The dose employed has varied within wide limits; a dose of from one-eighth to one half of a grain seems to represent the usual range, but in some instances this has been exceeded. Just before a boat-race several healthy men were induced to take a grain of the crystallised hydrochlorate in a capsule, and the immediate effects were increased confidence and sense of power, by which means the exertion could be sustained longer but could not be increased in force. This dose was followed for some days by inability to sleep, loss of appetite and dull headache, and it is significantly added that "the man who proposed the experiment had great difficulty in inducing those who willingly made the first trial of the drug to repeat the dose." In addition to this somewhat rash

experiment numerous instances are given in which alarming symptoms have followed more moderate doses, and, reviewing the whole experience detailed in Dr. Adler's paper, it may well be doubted whether, apart from its local anæsthetic action, the drug is destined to come into general use as an internal remedy.

THE ABUSE OF HOSPITALS.

THE Mayor of Barnsley, at the recent annual meeting of the Barnsley and District Hospital, remarked on the abuse of the hospital by the owners of certain large collieries in the neighbourhood who sent there all their men who met with minor accidents; these patients should properly be attended to by the surgeons to the collieries, who should be duly paid for their attendance. Hospitals would not be so impecunious and they would be more able to help the unfortunate victims of grave accident and disease if they had less to do in minor cases.

ISOLATION HOSPITALS AND GENERAL PRACTITIONERS.

AT a recent meeting of the Bakewell Local Board Dr. KNOX expressed dissatisfaction that arrangements had been made for removing a patient of his suffering from small-pox, which he had duly notified, to the temporary isolation hospital without any notice to him whatever. He raised the question whether private practitioners should not be allowed to attend their own patients. In small places this would appear to be quite practicable and would facilitate isolation arrangements. It seems altogether unreasonable, as we have had to say in other cases, that a medical man should go to see his patient and find that he has been removed without his knowledge, and especially so that any medical man should consent to be a party to such an interference.

DIFFUSE POPLITEAL ANEURYSM CAUSED BY AN EXOSTOSIS.

IN the April number of the *Revue de Chirurgie* MM. Terrier and Hartmann record a very interesting case of diffuse popliteal aneurysm. The patient was a youth of seventeen years of age who, whilst dressing after a bath, was seized with severe pain in, and radiating from, the right ham, and coldness of the foot. Soon afterwards a pulsating swelling low down on the inner side of the thigh was noticed. About a month after the onset of the trouble he was admitted into the Bichat Hospital and then presented a very great swelling, occupying the lower half of the thigh, the knee and the upper part of the leg; the pulsation in it was only slightly marked. It was diagnosed as a diffuse aneurysm and M. Terrier determined to try to save the patient's limb. Having placed an Esmarch's bandage around the thigh he made a very free incision over the ham, turned out a large quantity of clot and then found a longitudinal aperture in the popliteal artery exactly opposite and evidently caused by a pointed exostosis growing from the inner supra-condyloid ridge. The injured portion of the artery was cut out, the ends of the vessel ligatured and the wound sutured above and below a large drainage-tube. The patient made an excellent recovery and left the hospital with the full use of his limb. In this case the exostosis sprang from the bone well above the epiphysial cartilage and was evidently an exaggeration of the irregularities met with in the supra-condyloid ridge of the femur; other less marked and less pointed projections studded the ridge. Before the operation the patient was febrile, but blood taken from the aneurysm and cultivated was found to be sterile; the fever was not due to organisms, but to some products of the extravasated blood. Many years ago a similar case was recorded by Dr. Boling in the *North American Medical Chirurgical Review*. Amputation of the thigh was performed and the man recovered. Such an accident must be exceedingly rare, as, although exostoses of the lower end of the femur are quite common, they are usually too rounded and smooth to pierce an artery. In Dr. Boling's case the exostosis was a true epiphysial outgrowth; in M. Terrier's case it was due to ossification of the tendinous insertion of the abductor magnus muscle—quite distinct morphological conditions.

CAMBERWELL CEMETERY.

DR. W. T. GREENE of Peckham-rye read a paper at the meeting of the Funeral Reform Association on the 3rd inst. in which he gave a description of what he had seen in Camberwell cemetery. Assuming his statements to be correct, it would appear that there must be overcrowding in this cemetery. Graves from nine to twelve feet in depth were made to contain eight bodies; and considering that one foot of earth ought to intervene between each, whilst a clear four or five feet of earth ought to be left upon the topmost coffin, there must be not only overcrowding but a direct infringement of the usual regulations. It is greatly to be wished that a radical change may be made in the formation of these common graves. In Jewish burial-grounds it is said to be a rule that a grave once made is never reopened, whilst at Woking cemetery a similar regulation is said to prevail. Probably such cemeteries as those of Camberwell and other parishes are so circumstanced that it would be unfair to expect a similar rule. Nevertheless the common or public grave of the present time, with its numerous tenants and the foot of earth between, is a most unsatisfactory mode of burial. A better mode of conducting "multiple burial," as Dr. Greene calls it, would be to set apart a considerable portion of ground for the purpose and to bury in single graves, not reopening any until it is evident from the sinking of the mound at the top that the last interred coffin has given way and that the body has been returned to the earth. Then the grave might be reopened, leaving a sufficiency of earth, and so by judicious management of each grave its capacity would be fully utilised, whilst overcrowding would be avoided. We may remind Dr. Greene that, instead of petitioning the Camberwell vestry, Parliament, the London County Council, or the Local Government Board, the Home Secretary is the official to whom application should be made. If Dr. Greene's complaints are substantiated by the medical inspector from the Home Office, we feel very sure that a change will be made.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Professor Siemerling, who has been appointed Professor of Psychiatry and Neurology in Tübingen, will continue to lecture in Berlin during the current semester. The duties of the late Professor Hartmann's Chair of Anatomy will be undertaken during the remainder of the present session by Professor Waldeyer, who will lecture upon Topographical Anatomy, and Professor Hertwig, who will teach Osteology. Dr. Schotten has been promoted to an Extraordinary Professorship of Medical and Forensic Chemistry.

Bonn.—Dr. Gustav Veit, who has been Professor of Midwifery and Gynæcology since 1864, is about to retire. He was born in 1824 and practised as a pharmacist for four years before he began to study medicine.

Bonn.—Dr. Hans Leo, Extraordinary Professor of Medicine, has been appointed to the charge of the Medical Polyclinic in succession to Professor Finkler.

Clausenburg.—Dr. Joseph Brandt, Professor of Surgery, has been appointed Rector of the University for the ensuing year.

Cracow.—Dr. Bujwid, Chief of the Municipal Laboratory in Warsaw, has been appointed Extraordinary Professor of Hygiene.

Freiburg.—Dr. Emil Bloch has been recognised as *privat-docent* in Otology.

Innsbruck.—Dr. Josef Nevinny of Vienna has been appointed Extraordinary Professor of Pharmacology and Pharmacognosis.

St. Petersburg (*Helena Pavlovna Clinical Institute*).—Dr. Anrep has been appointed President of the Curatorium.

Tübingen.—Dr. Henke, Professor of Anatomy, has been appointed Rector for the ensuing year.

Turieff (*Dorpat*).—Dr. Friedrich Krüger has been appointed *docent* in Physiological Chemistry.

Vienna.—Professor Erb of Heidelberg having declined the Chair of Medicine in succession to Professor Kahler, the name of Dr. Heinrich Curschmann, Professor of Special Pathology and Therapeutics at Leipsic, is being brought forward.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Theodoros Aretaos, Professor of Surgery in the University of Athens. He was educated at Vienna and was held in high repute as a surgeon not only in Greece but in the great European medical centres. His funeral, which was a very imposing spectacle, was attended by nearly all the Ministers and by numbers of persons of the highest rank. His will bequeaths the greater part of his fortune, which amounts to a million drachmas, to build and endow a clinic to contain forty or fifty beds.—Dr. Michael Subbotin, formerly Professor of Therapeutics in the University of Kazan. He had for the last seven years lived in Moscow.

THE following are the arrangements for the Final Examination for the diploma of Fellow of the Royal College of Surgeons of England, for which forty-three candidates have entered their names:—Monday, 22nd inst., written examination (1.30 P.M. to 5.30 P.M.); Tuesday, clinical examination of patients, written and *viva voce* (from 2 30 P.M. to about 6.30 P.M.), at the Examination Hall; Wednesday, operations (1.30 P.M. to about 5.30 P.M.), at the Examination Hall; Thursday, surgical anatomy (2 P.M. to about 4 P.M.), at the Examination Hall; Friday, examination in pathology (5 P.M. to about 9.30 P.M.), at the Royal College of Surgeons. Candidates will be required to attend on each of the above days.

THE annual Congress of the British Institute of Public Health will be held at Edinburgh from Thursday, July 27th, to Tuesday, Aug. 1st, both inclusive. Dr. H. D. Littlejohn will preside. A large attendance is anticipated, and it is expected that the Lord Mayors of London and Dublin will honour the meeting with their presence, and with the Lord Provost and magistrates of the City of Edinburgh will attend in state on the occasion.

AN institute for Hygiene, Bacteriology and Therapeutics and another for Anatomy and Physiology are about to be erected in the Leopold Park, Brussels. The funds have been obtained to a large extent through the exertions of Dr. Heger, Professor of Physiology in the University, who has been awarded a special medal commemorating the circumstance The institutes will be erected by the Municipal Council.

IT is understood that the Science branch of the South Kensington Museum will shortly be separated from the Art branch, and that the Science collections will in future be placed under the superintendence of Major-General Festing, F.R.S. This arrangement has been brought about by the retirement of Sir Philip Cunliffe-Owen, who has held the post of Director of the Museum since 1873.

AS we have previously announced, the Croonian Lectures for the present year will be delivered at the Royal College of Physicians of London, by Dr. D. J. Leech, Professor of Materia Medica and Therapeutics at Owens College, who will take as his subject "The Physiological Action of Therapeutics of the Nitrites and Allied Compounds." The dates fixed for the delivery of the lectures are June 20th, 22nd, 27th, and 29th.

THE new President of the Servian Ministry and tutor to the young King, Dr. Dokics, is a medical man. He was educated at Vienna, and, previously to his appointment as tutor to the King, he was Professor of Physiology in the Science Faculty of the Belgrade University.

THE Special Water Committee of the London County Council have recommended the introduction of a Bill next year to empower the Council to provide a supplementary supply of water for London.

DURING the past week the number of cases of small-pox in Scotland has continued to decrease. Twenty cases occurred in Glasgow and one in Montrose.

THE Royal College of Surgeons will be closed on the 20th and 22nd inst.; on the latter day, however, the Museum will be opened as usual.

NOTES ON VISITS TO THE BATHS OF ISCHIA, OF VOLTAGGIO AND OF CASCIANA.

BY BENJAMIN D. HOWARD, M.D., F.R.C.S. EDIN.

LARGE as is the number of English-speaking residents in Italy, most of those I have met seem to be unfamiliar with the resources within easy reach of its principal cities for passing a cool summer. Still larger appears to be the number of them unfamiliar with the excellent mineral baths in Italy of almost every variety and temperature suitable to the various invalids requiring them. Some of these, I need not say, had high reputation in classic times, which in certain instances has continued and in others has declined. My recent experience and observation in connexion with the baths of Ischia, of Voltaggio and of Casciana were in the order I mention them. The time spent at Ischia was short, at Voltaggio it was longer and at Casciana the longest, and my remarks upon them, their administration and surroundings I make of different lengths in the same proportion. In no instance do I intend to do more than to give items from personal observation, which may supplement statistics to be found in cyclopædias and which may be of practical use to such persons as may be, or may become, inclined to visit one or other of the baths mentioned.

The baths of Ischia.—These baths are at Casamicciola, at the farthest landing-place of that island and one to which a steamboat goes from Naples every afternoon in a little over two hours. This place is very attractive to lovers of the picturesque and is full of tragic interest, two houses out of every three being in ruins exactly as they were ten minutes after the famous earthquake which a few years ago turned the principal hotel, whilst a grand ball was in progress, into a mixed mass of disjointed masonry and crushed corpses. As all the houses there were of large stone work and the majority of the inhabitants were in bed, about 5000 of them were crushed to death and never saw the light of the next day, which was the Sabbath. There are a number of new small hotels now. The bathing establishment is in a little valley, which is unfortunately about a mile inland where the living accommodations are not commendable. The mineral water is so hot that a cold-water tap is always placed side by side with the mineral spring tap to enable one to moderate the mineral water to a bearable or agreeable temperature. I think this mineral water is the hottest in Italy, the hottest indeed that I have anywhere encountered except in one part of Japan. The bathing establishment, like almost

every other building in use now, is new and only getting into good working order; its arrangement is sufficiently good to be tolerated by those who believe in the virtue of the waters. These baths, as might be supposed, are frequented chiefly by invalids with chronic rheumatic and gouty affections, disease of the kidneys and certain forms of skin disease. A great inconvenience in connexion with the baths is that most of the patients have to travel a mile or more when returning from their hot bath as well as going to it, the bathing establishment being that distance from any neighbourhood that can be called residential. But for this drawback these baths for the affections above referred to ought to be exceptionally beneficial. For two weeks before the earthquake before mentioned these waters gradually became hot beyond precedent and in consequence of predictions based upon this fact large numbers of visitors intended to leave the island on the Monday following the Saturday night when everybody at the grand ball of the season was crushed and mutilated almost beyond recognition.

The Baths of Voltaggio.—Voltaggio is resorted to as much for its climate as for its baths. From Genoa this place is reached by a steadily ascending railroad ride of an hour and a half and a carriage ride of about forty minutes—in all, within two hours. Thus in midsummer one may be at Genoa in a temperature of 95° or more, say at four o'clock in the afternoon, and dine and sleep at Voltaggio in a temperature as low as 65°, though the actual distance between the two places is less than forty miles. The baths at this place are of a totally different type from those of Casamiciola. The basis of the establishment there is a particularly cold, bright and clear mountain spring and the establishment might be described as a hydropathic institution in which these waters are employed in all the various ways common to such institutions of the highest class. The establishment receives from 100 to 300 guests at a time. The diet is equal to that of the best hotels and includes excellent wine *ad libitum*, the inclusive charges ranging from ten francs a day upwards. The administration includes a resident business manager and secretary, and the resident physician, Dr. Barco, whilst the whole is under the supervision of Professor Queirolo, M.D., of the University of Genoa. A more healthful, cheerful and well-managed hydropathic institution I have never found in any country, yet I have never seen or heard of an Englishman staying there.

The Baths of Casciana.—These baths are reached in about an hour and a half either from Leghorn or from Pisa, being half an hour's ride by train and an hour's ride by carriage. They are thirteen and a half miles from Leghorn, fifteen miles from Pisa, and thirty-seven miles from Florence; but as Casciana, like Lucca and most other baths, is approached by a steady ascent, the time in reaching it seems disproportionate to the distance. I was led to visit Casciana, not by its general reputation, but by particular cases I met at Capri, at Sorrento and at other places, the remarkable benefits alleged to have been received by these individuals making me incredulous. One of these persons was a sprightly German officer who had been for years previously unable to walk owing to chronic rheumatism. A second was an Italian engineer who had been disqualified for work by neurasthenia, and another an Italian baron who for years had been disabled by nephritic calculi &c. My incredulity was encouraged, not only by the greatness of the alleged results in the rheumatic case, but by the variety of the diseases from which the victims of them thought they had been relieved. After one of the most beautiful drives I have ever taken I found Casciana nestled amongst charming hills in the heart of rural Tuscany. The village itself is not attractive. It consists now chiefly of houses adapted to lodging and *pension* purposes, all subsidiary to the staple occupation of bathing and paying, giving baths and subsistence and being paid. All the baths are in the basement of one building, the "Stabilimenta," which flanks the Central Piazza. The upper part of the building forms the Grand "Stabilimenta Hotel," and contains ball-, reading-, billiard-rooms &c. The mineral water here is steaming warm, but is not comparable in heat to those of Casamiciola. The following is its composition:—

Nitrogen	444·010	cubic centimetres.
Carbonic acid	967·770	,, ,,
Sulphate of calcium	523·17	grammes.
Carbonate of calcium	100·35	,,
,, ,, magnesium	6·96	,,
,, ,, iron	1·02	,,
Sulphate of magnesium	90·48	,,
,, ,, sodium	127·80	,,
Chloride of sodium	7·80	grammes.
,, ,, magnesium	5·40	,,
Ammonia	0·45	,,
Silicic acid	11·55	,,
Oxide of aluminium	2·46	,,
Organic material	0·03	,,
Lithia	A trace.	
Total solid matter	878·07	,,
Pure water	299·12	litres.
Density	100·302	,,

The baths are all constructed of Carrara marble, are in rooms for one, two, or more persons, and are reached by marble steps. One "treatment," as it is called, consists of from fifteen to twenty immersions within about two, three or four weeks, the duration of the immersions increasing gradually from fifteen minutes to an hour. After each bath the patient rests from half an hour to an hour in bed. The native residents of the region and throughout Tuscany show great confidence in the merits of these baths, which to the poor amongst them are given for fifty centisimi per bath. The visitors in the Grand "Stabiliamenta Hotel" included many annual *habitués* of the highest social rank, and as even the noblest Italians prefer any audience to no audience at all I found it extremely easy to become the confidant of a large number and variety of their experiences. Of the whole number, not one of these persons had any accusation against the baths. The larger part spoke very hopefully and a solid proportion furnished tales corresponding to those which had made me incredulous enough to come and see what I could find for myself.

I watched several cases during my six weeks' stay there, but though some patients stated that after the first or second bath they at once improved, such changes were not visible to me. One very remarkable fact on which nearly all agreed who had been to these baths before, or some time since, is that the real and greatest benefit began to be realised only some weeks or months afterwards, and this in cases in which at the time, and soon after taking the baths, there was apparently not a particle of benefit. One such case has been under my own notice. This patient had for nearly twenty years been in a state of disability from neurasthenia, and after spending three years in the tropics with only partial relief from rheumatism and sciatica had to return to England and took these baths *en route*. The benefit, which he really did not expect, amounted practically to nothing at the time, and almost immediately after reaching England he became bedridden with lumbago and sciatica; then came on the cold damps of November for which London is so distinguished, but through it all he has since remained better in every respect than he had been for ten or twelve years before. As this history nearly coincides with that of so many others given me by the patients themselves, my former incredulity is giving place to the question, "How do you account for it?" Whilst waiting for the answer to this question the facts which have at least gained my respect ought I think to be known, and I offer them for the benefit of such as they may concern. It is a great advantage to be living in the building in which the baths are situated. This is especially felt in returning from them for the usual rest in bed afterwards. The vice-director of this establishment is a physician, Dr. Fairman. The director is Professor Pietro Grocco of Pisa. Every medical appliance, whether for electrical or other modes of combined treatment, may be found there in skilful hands. I never saw an Englishman or an American in this establishment, though it seems to me to be well worth a trial, especially in cases of chronic rheumatism and allied ailments.

CHOLERA.

SINCE our last report the accounts received from Russia show that the disease still prevails to a slight extent in several of the Government districts of that country.

From Germany we learn that a workman died of cholera on the 15th inst. at Shiffbek, in Holstein, and that precautions had, as far as practicable, been taken.

There is no news from France of any fresh outbreak of the disease.

The drought has passed away and a great change has taken place in the weather, rain having fallen generally. The long

bright spring and almost unparalleled continuance of dry weather we have had of late should have exercised a beneficial effect as regards the prevalence of cholera if that disease depends upon micro-organisms, for Professor Marshall Ward demonstrated lately at the Royal Society that sunlight or the electric light kills spores of bacteria and fungi.

At a meeting of the Society of Medical Officers of Health on the 15th inst., Dr. Heron, in a paper on Cholera from an Urban Point of View (which will be published in full in our columns), recommended that, in the event of an epidemic of cholera, tramps should be prevented from journeying about the country; all cholera patients should be promptly removed to hospital; hand ambulances should be provided for such removals; there should be an official medical residence in every district; and the authorities should be ready to form camps in parks and other suitable open spaces.—Dr. W. Collingridge, medical officer of health of the Port of London, read a paper on Port Cholera Precautions and described the system of port medical inspection adopted by England in preference to the system of quarantine. He indicated that the system was dependent upon the coöperation of other sanitary authorities. Papers were also read by Mr. M. G. Yunge-Bateman (Folkestone) on Cholera from a Passenger-port Point of View and by Dr. J. C. Thresh on Cholera in Rural Districts.

PROFESSOR PETTENKOFER ON THE HAMBURG CHOLERA EPIDEMIC.

(FROM OUR OWN CORRESPONDENT AT BERLIN.)

PROFESSOR VON PETTENKOFER has published a treatise "On the Cholera of 1892 in Hamburg and on Preventive Measures."[1] He refers to the published opinion of Medical Councillor Dr. Reincke of Hamburg, who, though formerly a thorough-going adherent of his, represents the infection of the Hamburg drinking water with cholera vibriones as the main cause of the epidemic. Professor Pettenkofer strongly opposes this opinion. Even if cholera vibriones had got into the Hamburg water it would not have mattered, for the virus would then have been so much diluted that it would have been harmless. The notion that the sudden spread of the cholera in Hamburg was a proof that the drinking water played an essential part was utterly erroneous. The cholera epidemic of 1854 in Munich exactly resembled last year's epidemic in Hamburg, but the most careful inquiry had led to the conviction that the water had nothing whatever to do with it. The effect of the bad Hamburg water, indeed, was not to be denied; but this effect had been produced not because it was drunk by the people, but because the soil and the houses were in a high degree polluted by it. The sediment of the Hamburg water, exceedingly rich as it was in organic substances, had afforded the cholera vibriones a favourable opportunity to develop. One of Professor Pettenkofer's remarks is of special practical importance. He states that 42·7 per cent. of the cholera patients of the Hamburg suburb of Sankt Georg, who were taken to the neighbouring old hospital died, whereas amongst those who were taken to the more distant Eppendorf Hospital the percentage of death was 61 6. The mortality was lowest amongst those who were not removed from their homes. "The danger for cholera patients," says Professor Pettenkofer, "increases with the length of the way to the hospital." He also adduces a number of facts to prove that, besides the comma bacillus, seasonal and local conditions—soil, height above the level of the sea, climate, weather—have a great deal to do with the outbreak of cholera. In particular he points to the fact that the cholera germ propagated by human traffic sometimes remains latent at a place for a long time before an epidemic breaks out. In 1866, for instance, the village of Rellinghansen, near Essen, remained free of cholera during a cholera epidemic at Essen. In 1868, however, when the cholera had disappeared from all other parts of Europe, cholera epidemics broke out at Rellinghansen and some other places in Rhenish Prussia and Westphalia. Professor Pettenkofer thinks this a clear proof that the outbreak of a cholera epidemic depends not on the presence of cholera germs alone, but also on temporal and local conditions. He sums up his views as follows: "The epidemiological standpoint and epidemiological experience, not bacteriological or clinical research, must form the basis of the deliberations at cholera congresses. The various theories are of practical importance only so far as protective measures can be founded on them, and the main antagonism at present is that between the Contagionistic and the Localistic theories. As a rule the latter are neglected. Both parties are agreed that two things are needed to produce cholera epidemics, a germ capable of propagation by human intercourse and an individual predisposition of persons, which factors I call x and z, and the Contagionists rest satisfied with these two factors. The Localists, on the other hand, supported by numerous epidemiological facts, maintain that these two factors cannot cause or explain the outbreak of cholera epidemics, which is alone in question and which is occasioned by local and temporal circumstances, which I have called y. How y is connected with x or z, indeed, is not yet known, but we know very well from numerous epidemiological experiences what affects it. With the same reason as I assumed an x before the comma bacillus was known, I now assume y, and cannot sacrifice it to x because the epidemiological centre of gravity lies in y alone. In immune places (Lyons or Stuttgart, for instance), or in non-immune places at immune times (in Hamburg and all over North Germany in April, for instance) x and z are very harmless things. No epidemics break out there and then, even though much x comes and much z is present. I am convinced that the y emanating from certain places at certain times will be discovered one day by the bacteriologists, just as the comma bacillus was discovered by Koch. I am erroneously regarded as an enemy of bacteriological research. I said years ago that I build my hope of the complete solution of the cholera riddle on bacteriology, but bacteriological research must go not only in the contagionistic, but also in the localistic direction, in order completely to clear up the y." As regards the combating of cholera, Professor Pettenkofer declares against all limitation of intercourse.

[1] An abstract of Professor von Pettenkofer's original article on this subject appeared in THE LANCET, Nov. 19th, 1892, p. 1182.

SCOTTISH UNIVERSITY CLUBS.

GLASGOW UNIVERSITY CLUB, LONDON.—The members of the Glasgow University Club, London, dined together on Wednesday, May 10th, at the Holborn Restaurant. Professor George G. Ramsay presided, and a goodly number of gentlemen distinguished in science and art assembled on the occasion. Apologies for unavoidable absence were read by the hon. secretary, Mr. J. R. M'Ilraith. The usual loyal toasts having been proposed and duly honoured, the chairman, in proposing the toast of "The Glasgow University Club, London," said that since he last appeared before the club the universities of Scotland had entered upon their careers under new arrangements. He believed it was a career of renewed vitality, for though there might be a change of form, there was certainly no change in the spirit of the good old University of Glasgow. After referring to the union of the Queen Margaret College with the University of Glasgow, Professor Ramsay went on to say that he would now deal with a question which more affected the medical profession. In London they were aware of the discussion which had taken place with regard to Gresham College. In connexion with that discussion what the Scotch universities had to note was this, that it had been constantly brought forward by persons in high authority in the medical faculties that the prosperity of the Scotch universities was largely due to the fact that London medical students left the London schools before their education was completed and flocked to the Scottish medical schools in consequence of the greater facilities in the Scotch schools. It had been stated that students went down to Scotland in hordes and shoals for the purpose of obtaining their degrees under easier circumstances than they could have obtained them elsewhere. Three distinguished gentlemen had given evidence to that effect, Dr. Collins, Mr. M'Namara and Sir James Paget. In order to test the question he had made inquiry in regard to the three years 1890, 1891 and 1892. He would take the case of the University of Glasgow first. Three hundred and forty-seven students received the degree of M.B.; of these 322 had taken their whole course in the University of Glasgow. Of the remaining number 26 attended in other Scotch schools or extra-mural schools. One single student had been for a short time a

student in the University of London. In the case of Aberdeen there were 157 students who took the degree of M.B. Of these, beyond those who studied in Aberdeen, 15 studied in other Scotch universities and 3 in the colonies. Of the whole number 4 had taken a small part in the University of London. In the case of Edinburgh, in the three years referred to there were 712 students who received the degree of M.B. Of that large number only 154 received their whole course at the University of Edinburgh. No less than 558 had received a part of their course in other classes than those of the University, and of that number no fewer than 51 attended classes in extra-mural schools in Edinburgh. In regard to the remainder, the figures were extremely interesting. At other Scotch universities there were 23 who received part of their education in English universities—London 10, and provincial schools, not universities, 15; Dublin, 3; Indian schools, 13; colonial and other schools, 26; Continental schools, 3; so that the whole of this so-called horde of students who went to Scotland to obtain easy degrees in the whole of these three years from London University was 15. A number of other toasts followed and a vote of thanks to the chairman concluded the meeting.

EDINBURGH UNIVERSITY CLUB, LONDON.—On the evening of Wednesday, 10th inst., the quarterly dinner of the Edinburgh University Club took place in the Venetian Room of the Holborn Restaurant, the Right Hon. G. J. Goschen, M.P. (Lord Rector of the University), occupying the chair. There was a large gathering of the members of the club, including Sir Edward Sieveking, M.D., Sir Thomas Crawford, M.D., Sir Charles Pearson, Q.C., M.P., Mr. Finlay, Q.C., &c. Amongst the distinguished guests were Mr. Graham Murray, M.P., Sir Colin Scott Moncrieff, Rev. Page Roberts, Mr. Colin Hunter, A.R.A., Dr. Clifford Allbutt, Mr. Conan Doyle, &c. After the usual loyal toasts had been given from the chair, the right honourable gentleman proposed, in a very felicitous speech, the toast of the evening, "Alma Mater and Success to the Edinburgh University Club." Mr. Finlay proposed the health of the guests, coupling with the toast the names of Sir Colin Scott Moncrieff, Mr Graham Murray and Mr. Conan Doyle. In replying, the last-named gentleman, as representing literature, related some very interesting experiences of his student life in Edinburgh University whilst studying medicine there.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bristol Port Sanitary District.—This district is at present only temporarily constituted, but it appears that steps are about to be taken to extend the limits of jurisdiction and to make it a permanent port sanitary district. From the Inspector of Nuisances' returns, which are embodied in Dr. Davies's report, we learn that 1265 ships were inspected in 1892 and 83 disinfected. As an instance of the good results which all admit are being produced by the efforts of port sanitary authorities we may refer to the fact that in Bristol during 1892 only 21 per cent. of the vessels inspected were found to possess sanitary defects, as against 28 per cent. in the preceding year. Leakage was still one of the chief nuisances dealt with, as also was dampness due to the condensation of moisture on the insides of iron vessels. The inspector is, we think, quite right when he remarks that lining of the crew spaces with wood should be made compulsory by the Board of Trade. The inspector also refers to what is undoubtedly a fact, and that is the difficulty of dealing with questions of overcrowding in face of the very limited cubic space insisted upon by the provisions of the Merchant Shipping Act. A revision of the Board of Trade regulations with regard to these matters is much to be desired. Dr. Davies gives a short sketch, accompanied by a map, of the progress of cholera through Europe during 1892 and he also refers to the behaviour of previous epidemics in this country. We notice that it has been decided to purchase a steam launch for the use of the port officials, and it is to be hoped that before long other port sanitary authorities will recognise the necessity for the same provision. It is really absurd to expect medical men to inspect vessels without proper provision being made for their comfort and safety. It would also be well if steps were taken by the port sanitary authorities to obtain some distinctive flag for the service, so that the inspecting officer might be recognised at once. With reference to the detention of vessels for inspection, it appears that at Bristol the Haven Master issued an order to pilots in these terms: "All vessels arriving from ports in Europe or from places affected with cholera are to anchor in Kingroad for the purpose of being rummaged by the Customs officer or examined by the sanitary authorities." Dr. Davies appends to his report an account of the conference of port medical officers of health, and this should prove of interest to the members of his authority.

King's Norton Rural Sanitary District.—This district yielded during 1892 a general death-rate of 12·52, and a zymotic death-rate of 0·71, whilst that from phthisis was 1·5 per 1000. There were 136 cases of scarlet fever notified, but only one death from the disease occurred. Dr. Hollinshead advises his sanitary authority to undertake the scavenging of the district, and to dispose of the refuse by means of a destructor. Suitable sites have been selected as burial grounds for parts of the district, and energetic steps are, it appears, being taken to remedy the nuisance caused by the pollution of the river Rea.

Stockton-on-Tees Urban Sanitary District.—The population of this district is estimated at 50,000. There were during the year 133 deaths from phthisis. This number represents a considerable increase on the last three years, and Mr. Clegg accounts for it by attributing it to the after effects of influenza. The new infectious diseases hospital is nearly completed, and during last year provision for cholera was made in the hospital grounds by laying down two surfaces of concrete and providing double-walled tents which could be erected in a few hours. The general death-rate of the district was 19·4, the zymotic 1·54, and the infantile mortality 155·5. The inspector of nuisances' account of work done during the year is embodied in the report.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6303 births and 3676 deaths were registered during the week ending May 13th. The annual rate of mortality in these towns, which had been 19·7 and 19·8 per 1000 in the preceding two weeks, declined again last week to 18·6. In London the rate was 17·7 per 1000, whilst it averaged 19·2 in the thirty-two provincial towns. The lowest rates in these towns were 10·0 in Burnley, 10·5 in Croydon, 11·5 in Norwich, and 11·9 in West Ham and in Halifax; the highest rates were 24·5 in Cardiff, 25·1 in Preston, 25·4 in Wolverhampton, 25·6 in Liverpool and 27·0 in Plymouth. The 3676 deaths included 435 which were referred to the principal zymotic diseases, against 424 and 422 in the preceding two weeks; of these, 112 resulted from measles, 96 from diphtheria, 86 from whooping-cough, 57 from diarrhœa, 41 from scarlet fever, 25 from small-pox, and 18 from "fever" (principally enteric). No fatal cases of any of these diseases occurred last week in Croydon, Norwich, or Burnley; in the other towns they caused the lowest death-rates in Nottingham, Portsmouth and Wolverhampton, and the highest rates in Manchester, Newcastle-upon-Tyne, Plymouth, Cardiff and Preston. The greatest mortality from measles occurred in Plymouth, Cardiff, Swansea, Manchester, Blackburn, Preston, Leeds and Newcastle-upon-Tyne; from scarlet fever in Huddersfield and Swansea; and from whooping-cough in Leicester, Liverpool and Brighton. The mortality from "fever" showed no marked excess in any of the large towns. The 96 deaths from diphtheria included 68 in London, 5 in Cardiff, and 3 in Leeds. Thirteen fatal cases of small-pox were registered in London, 4 in Oldham, 3 in Manchester, and 1 each in West Ham, Birmingham, Salford, Halifax and Hull; 569 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, against 450, 474 and 531 at the end of the preceding three weeks; 126 new cases were admitted during the week, against 86, 110 and 161 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Fever Hospitals and in the London Fever Hospital at the end of the week was 2281, against 2037, 2103 and 2161 on the preceding three Saturdays; 349 new cases were admitted

during the week, against 259 and 280 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 416 to 349 in the preceding four weeks, further fell last week to 304 and were 45 below the corrected average. The causes of 64, or 1·8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, Hull, Sunderland and in five other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Salford and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·9 and 21·5 per 1000 in the preceding two weeks, declined again to 20·7 during the week ending May 13th, but exceeded by 2·0 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 14·9 in Dundee and 15·4 in Leith to 22·3 in Perth and 24·8 in Glasgow. The 582 deaths in these towns included 47 which were referred to measles, 28 to whooping-cough, 14 to diarrhœa, 7 to diphtheria, 6 to "fever," 5 to scarlet fever and 1 to small-pox; in all, 108 deaths resulted from these principal zymotic diseases, against 92 and 101 in the preceding two weeks. These 108 deaths were equal to an annual rate of 3·9 per 1000, which exceeded by 1·7 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 47 and 48 in the preceding two weeks, were 47 last week, of which 37 occurred in Glasgow and 5 in Greenock. The deaths referred to whooping-cough, which had been 17 and 29 in the preceding two weeks, were 28 last week and included 21 in Glasgow and 5 in Edinburgh. The 7 fatal cases of diphtheria exceeded those recorded in any recent week and included 5 in Glasgow. The 6 deaths referred to different forms of "fever" corresponded with the number in the preceding week; 2 occurred in Glasgow and 2 in Dundee. The fatal cases of scarlet fever, which had been 6 and 9 in the preceding two weeks, declined again to 5 last week and included 4 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 149 and 116 in the preceding two weeks, further declined to 105 last week and were 35 below the number recorded in the corresponding period of last year. The causes of 41, or more than 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 28·7 to 22·2 per 1000 in the preceding three weeks, rose again to 26·1 during the week ending May 13th. During the past six weeks of the current quarter the death-rate in the city has averaged 25·6 per 1000, against 19·6 in London and 16·0 in Edinburgh. The 175 deaths registered in Dublin during the week under notice showed an increase of 26 upon the number in the previous week and included 22 which were referred to the principal zymotic diseases, against 4 and 16 in the preceding two weeks. Of these 8 resulted from whooping-cough, 6 from "fever," 4 from measles, 2 from scarlet fever, 1 from diphtheria, 1 from diarrhœa, and not one from small-pox. These 22 deaths were equal to an annual rate of 3·3 per 1000, the zymotic death-rate during the same period being 2·3 in London and 1·6 in Edinburgh. The fatal cases of whooping-cough, which had been 1 and 6 in the preceding two weeks, further rose to 8 last week, a higher number than in any week since April, 1892. The deaths referred to different forms of "fever," which had been 2 and 5 in the preceding two weeks, further increased to 6 last week. The 4 fatal cases of measles also showed a slight further increase upon those recorded in recent weeks. The 175 deaths registered in Dublin last week included 35 of infants under one year of age and 44 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a marked increase upon the numbers recorded in the preceding week. Seven inquest cases and 5 deaths from violence were registered; and 54, or nearly a third, of the deaths occurred in public institutions. The causes of 19, or nearly 11 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-CAPTAIN J. C. HASLETT, M.D., has joined at Devonport for duty from Exeter. Surgeon-Captain H. B. Mathias has assumed duty at Exeter. Surgeon-Captain R. J. C. Cottell has arrived home from Gibraltar. Surgeon-Captain Reid, in charge of the troops and families at Netley, has leave of absence from May 16th in anticipation of leave being granted to him; during his absence his duties will be performed by Surgeon-Captain Morris. Surgeon-Colonel Inkson will succeed Surgeon-Major-General Rudd as Principal Medical Officer of the Southern District. Surgeon-Captain Wright has been granted leave to England from India. Surgeon-Captain Carr has embarked for Egypt in the *Himalaya*. Surgeon-Captain Kearney has been posted to Chester. Surgeon-Captain Fitzgerald has been transferred from Dublin to the Curragh, and Surgeon-Lieutenant Withers from the Curragh to Dublin.

INDIA AND THE INDIAN MEDICAL SERVICE.

Surgeon-Colonel G. Thomson, M.B., is appointed to be Administrative Medical Officer and Sanitary Commissioner of the Central Provinces from date on which he assumed charge of his office from Brigade-Surgeon-Lieutenant-Colonel W. Center, who has retired from the service. 3rd Bombay Cavalry: Surgeon-Captain Irvine to officiate in Medical Charge during the absence of Surgeon-Captain Moore. 28th Bombay Pioneers: Surgeon-Lieutenant S. Winton to officiate in Medical Charge during the absence of Surgeon-Major Burness. Surgeon-Colonel Bowman has been posted to Kurrachee as Principal Medical Officer, Sind District. Surgeon-Captain J. S. Edye, M.S., is appointed to the Civil Medical Charge of Ranikhet, in addition to his military duties, and Surgeon-Captain F. D. C. Hawkins, Civil Surgeon, Etawah, to hold Visiting Medical Charge of the Mainpuri District, in addition to his other duties, during the absence on leave of Surgeon-Captain L. G. Fischer, or until further orders. Surgeon-Major H. E. W. Barrington, A.M.S., is appointed to the Medical Charge of the Cantonment General Hospital, Dalhousie, from March 9th, 1893. The following postings are announced:—Surgeon-Captain J. Donaldson, A.M.S., to the Medical Charge of the Station Hospital, Poonamalee. Surgeon-Lieutenants G. Bidie and J. P. Morton, I.M.S., on arrival from England to do duty, Madras District. The services of Surgeon-Captain H. B. Melville, I.M.S., Civil Surgeon, North Lushai Hills, are placed at the disposal of the Government of India, Home Department. Surgeon-Captain A. V. Anderson, I.M.B., and Surgeon-Major Jas. S. Wilkins, D.S.O., have respectively delivered over and received charge of the office of the Deputy Sanitary Commissioner, Western Registration District. It is understood that Surgeon-Colonel Pilcher will succeed Surgeon-Colonel Richardson as Inspector-General of Civil Hospitals in the North-west Provinces on the latter's retirement in May, 1894, Surgeon-Colonel Harvey then becoming Inspector-General of Civil Hospitals in Bengal. This will leave the post of Principal Medical Officer with the Punjab Frontier Force vacant.

NAVAL MEDICAL SERVICE.

The following appointments are announced:—Surgeons: Edward Cooper to the *Hearty*, Ernest A. Shaw, B.A., M.B., to the *Victory*, Charles S. Bennett, F.A., M.B., to the *Speedwell*, John A. Keogh, B.A., M.B, and Reginald T. A. Levinge to the *Vivid*, Richard L. Price to the *Rodney*, Arthur H. Howell and Eric E. Kershaw to the *Pembroke*, additional, Montague L. B. Robb to the *Narcissus* and Frederick J. A. Dalton to the *Immortalité* (all dated May 17th, 1893). Surgeon and Agent: Herbert C. Fawke, at West Mersea (dated May 15th, 1893).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Thomas William Richardson, Norwich Company Volunteer Medical Staff Corps, to be Surgeon-Captain (dated May 17th, 1893).

MILITIA MEDICAL STAFF.

Surgeon-Lieutenant-Colonel H. B. Brew, Wicklow Artillery (Southern Division, Royal Artillery), resigns his commission; he is also permitted to retain his rank and to wear the prescribed uniform on his retirement (dated May 13th, 1893).

VOLUNTEER CORPS.

Artillery: 2nd Devonshire (Western Division, Royal Artillery): Surgeon-Lieutenant F. A. Davson, M.D., resigns

his commission (dated May 13th, 1893).—*Rifle:* 4th (Perthshire) Volunteer Battalion, the Black Watch (Royal Highlanders): Surgeon-Major J. Macfee to be Surgeon-Lieutenant-Colonel (dated May 13th, 1893).

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The official inspection and examination of the present class took place at the head-quarters of the Artists' Rifle Volunteers on Thursday, May 11th. The parade consisted of members of seventeen metropolitan and provincial regiments, the inspecting officers being Surgeon-Major Lamprey and Surgeon-Captain Sparkes, Army Medical Staff. After a very careful inspection and examination Surgeon-Major Lamprey recommended the whole class for Army Ambulance certificates, expressing his pleasure at the steadiness, smartness and general efficiency shown by the men. Lord Amherst, Secretary-General of the Order of St. John of Jerusalem, congratulated all ranks upon the result of the inspection, remarking that the knowledge which the men had obtained would be most useful to them in their civil as well as in their military capacity. The Lord Mayor's prize for the best squad in the present class was won by a team of the 24th Middlesex (Post Office) Rifle Volunteers, and the prizes given by the School for the two best individual men were also won by two men of the same squad. In addition to those mentioned above the following officers were present: Major Maclure (President), Brigade-Surgeon-Lieutenant-Colonel P. B. Giles (Senior Vice-President), Surgeon-Captain Stokes (Senior Medical Officer Instructor), Surgeon-Captains R. R. Sleman, C. Hughes, and J. Palmer. The next class for the training of regimental stretcher bearers will commence in October next. Application for forms should be addressed to Mr. C. Q. Downer, Fairfield, Willesden-park, N.W.

EXAMINATION FOR BRITISH MEDICAL SERVICE.

The next examination for the British Medical Service will be the first coming under the new regulation whereby candidates are required to produce certificates of having served for six months as clinical clerks and for a further six months as surgical dressers, three out of each six months having been spent in the wards of a hospital.

ANTHRAX IN INDIA.

According to the Anglo-Indian journals M. Pasteur has expressed his willingness, through the Secretary of State, to send out an expert with the object of introducing his method of inoculation for the prevention or mitigation of anthrax in India, and it is believed that M. Pasteur's offer will be accepted before the end of this year.

THE MEDICAL SERVICES IN INDIA.

If we may judge from the pervading tone of the communications which reach us from India we should say that service in that country is not by any means so popular as it used to be. The climatic heat of the plains, it is true, remains the same and is about as unbearable to some people as ever; but life in India in the past was not unpleasant and had many advantages. The pay was good; there was little or none of the daily fret and worry about "ways and means" that there are in this country; the work was not hard, society in India was agreeable and "sport" was good. Of late years, however, the pay has been steadily decreasing and the work increasing. The charge of station hospitals at large stations is an onerous and responsible one and has no allowances attached to it, and medical officers of a certain rank do not reap any corresponding advantages from their rank and length of service. The risks to health are greater than at home and married medical officers with families to support and educate in this country cannot afford to indulge in those things which serve to mitigate conditions of climate and expatriation.

THE UTILIZATION OF SEWAGE IN INDIA.

In this and other countries in Europe where land cannot be easily secured much expenditure is incurred in utilizing sewage on the land and in purifying the effluent before returning it to the river; indeed, the separate system has been recommended by many engineers in order to deal with the rainfall and overcome the difficulty attending the addition of this and subsoil water in constantly varying amounts to the sewage proper. "The rainfall to the river and the sewage to the soil" is the principle acted upon. According to the evidence brought forward by Mr. Wallace in his recently published volume on "Sanitary Engineering in India," sewage farming in that country, if properly conducted, appears to hold out more promising and profitable prospects than in European towns. In most of the towns of India all the sewage produced may be used in agriculture with profitable results; the volume of sewage of a town or city in that country need not be too great for agricultural purposes under a system adapted to the soil and climate of the locality. The long seasons of drought and the suitableness of a thirsty soil in a dry climate, together with the rapidity of vegetable growth in India, are all favourable conditions to sewage farming. The experiments with this system in Madras are said to have been remarkably successful.

LORD HERSCHELL'S COMMITTEE.

The results and recommendations of Lord Herschell's Committee and the consequent action of the Secretary of State for India are matters of great speculative interest in India at the present time. The large number of officials and others who are gravely affected by the rate of exchange and the depreciated value of silver are anxiously looking forward to something being done for them in this respect. The proceedings of the American Congress are likewise watched by the Anglo-Indian with a view to discovering what will be the action of the United States Treasury in regard to the purchase of silver under President Cleveland's administration. The subject is one of great difficulty, no doubt, and it is hard to say how a remedy can be found that will not give rise to a financial outlay which may prove embarrassing to the Indian Exchequer at the present time; but the servants of the Indian Government, both civil and military, are in the meantime being subjected to serious losses of income.

THE LOSSES IN THE FRANCO-GERMAN WAR.

According to some statistics recently published it appears that the total death-roll on the German side amounted to 49,400. There were also 4239 officers and 84,304 men wounded, in addition to those reported as missing. On the French side the total death-list was not far from 139,000, including commissioned officers and men and those who died in German hospitals.

CHOLERA IN THE PUNJAB.

It is stated that the first death from cholera in the Punjab recorded during the present year occurred in a village of the Jhelum district about the middle of March last. A single case of cholera in a province like the Punjab is, of course, of no importance, but its occurrence in the Jhelum district at this season is somewhat noteworthy, as it may prove to have some significance later in the year.

POISONING AS A PROFESSION.

The Times of India, in noticing the report for 1892 of the chemical analyser to the Government of Bombay, calls attention to the callous disregard for human life which is demonstrated in the bulk of the cases reported on. There were 320 medico-legal cases, of which 153 related to the deliberate poisoning of human beings for the purpose of spite or revenge. It is a strange fact that a large proportion of the cases in recent years appear to be motiveless, whilst in others the poisoner makes no difficulty about poisoning a whole family to get at the individual object, and the recklessness with which the Indian poisoner often sets about his deadly work is said to be a characteristic feature of many of the crimes of this kind. Several instances are given in our Anglo-Indian contemporary by way of illustration of the foregoing statements.

BEQUESTS AND DONATIONS TO HOSPITALS.—The Mercers' Livery Company has contributed an additional fifty guineas to the Royal Sea-bathing Infirmary, Margate.—The late Mr. Thomas Scott, of Nevill-park, Tunbridge Wells, bequeathed £200 to the Royal Hospital for Incurables.—Mrs. Scales, late of Grange House, Dodworth-road, Barnsley, bequeathed £2000 to the Beckett Hospital, Barnsley.—Mr. Joseph G. Barclay has sent a donation of £100 to the North-Eastern Hospital for Children, Hackney-road.—The late Mr. Alfred Venables of Hollywood, Wimbledon-park, bequeathed £200 to the Central London Throat and Ear Hospital, Gray's-inn-road.—The treasurer of the Royal Infirmary, Liverpool, has received £171 14s., the gross receipts of a concert lately given in that city by Mr. James Veaco and his pupils in aid of the funds of that institution.

Correspondence.

"Audi alteram partem."

THE MORTALITY AFTER OPERATION FOR STRANGULATED HERNIA.

To the Editors of THE LANCET.

SIRS,—In a leading article on the "Treatment of Gangrenous Hernia," published in THE LANCET of May 6th last, you conclude your remarks with the following sentence: "One statement made in the discussion is so remarkable that it deserves special notice. Mr. Bowlby stated that, taking all the operations for strangulated hernia performed in St. Bartholomew's Hospital during the last ten years, they showed a mortality of 40 per cent. It would be interesting to know to what this very high death-rate is to be ascribed." In accordance with your suggestion I beg to give you such further information as is at my command; but, in the first place, I should wish to state here what I stated whilst speaking at the Royal Medical and Chirurgical Society in the discussion on Mr. Kendal Franks' paper and what is duly reported in the proceedings of the Society—namely, that the mortality after operation for strangulated hernia is greatly higher than is generally appreciated and that the general average mortality is probably over 40 per cent. In the sentence I have quoted from your article, it would seem as though St. Bartholomew's Hospital enjoyed an unenviable distinction in this respect. But this is not the case, and in my remarks I specially quoted from figures collected by Mr. James Berry and published by him in the St. Bartholomew's Hospital Reports for 1884. These figures show that in 940 cases treated consecutively in St. Thomas's and Guy's Hospitals as well as in St. Bartholomew's Hospital the mortality was 43[1] per cent., the death-rate being nearly equal in all three of these institutions. I considered that these figures justified the conclusions I drew, and, in further support of them, I would allude to the statement made by Mr. Treves in the discussion on Mr. Lockwood's paper in THE LANCET of April 4th, 1891, to the effect that the mortality at the London Hospital after operations on strangulated hernia "was nearly 50 per cent." One may therefore conclude that in the four largest hospitals in London such mortality has been within recent years not less than 40 per cent.; but as some of your readers may prefer actual figures from cases still more recently in St. Bartholomew's Hospital I venture to summarise the results of the past ten years: Femoral hernia, 165 operations, 59 deaths—percentage of deaths, 35·7; inguinal hernia, 104 operations, 30 deaths—percentage of deaths, 28·8; umbilical hernia, 24 operations, 14 deaths—percentage of deaths, 58·8—a total of 293 cases with 103 deaths, showing a general mortality of 35·8 per cent. You will thus see that the results obtained at St. Bartholomew's Hospital are, at any rate, no worse than those obtained at other London hospitals (and it is most probable that in the latter also the latest statistics show further improvement); but I think all surgeons will be indebted to you for calling special attention to such a high mortality, and I am personally much obliged for the prominence you have given to this matter, for if properly appreciated and acted upon one may hope that in the future our results may be greatly improved. You say: "It would be interesting to know to what this high mortality is to be ascribed." In a general way this is easy to answer. The high mortality is to be ascribed to the length of time that has elapsed between the act of strangulation and the operation for its relief. The mortality need not be more than 5 or 10 per cent. Most of the deaths are avoidable. Hardly any patients die from the operation itself. Nearly all who succumb are dying or are fatally injured before the operation can be performed. In cases operated on in the first twelve hours after strangulation the mortality is quite trifling. After three or four days of strangulation the chances of recovery are but small. If it were only more fully realised that the death-rate is such as I have shown it to be, surely hospital surgeons might reasonably expect to have cases sent to them at an earlier date, and this is why I wish to insist on a recognition of the high death-rate and the responsibility incurred by those who advocate even the shortest delay.

[1] Not 44 per cent., as I am reported to have said.

With regard to the more exact causes of death, and after having made a large number of post-mortem examinations in cases of hernia, I would say that peritonitis accounts for only a small minority. When it occurs it is usually the result of perforation of the bowel at the seat of stricture and such perforation may not occur for several days after operation. In a case of my own I have known it to occur on the ninth day. Neither peritonitis nor wound complications account for the high mortality. Most of the deaths are due to exhaustion resulting from compulsory starvation of several days' duration as well as from continuous retching, vomiting and pain. In many cases the post-mortem examination reveals basic pneumonia and distension of the right heart; this is the result, in my opinion, of a distended abdomen causing upward displacement of the diaphragm, and with this is combined difficulty of breathing, due to such displacement and to the loss of abdominal respiratory movements. None of these deaths which are due to exhaustion and congestive pneumonia occur in cases operated on early, and they are all avoidable.

Finally, I would say: Let no one think that in resection of gangrenous intestine there exists an efficient means of dealing with cases in which operation has been very long delayed. I understood from Mr. Franks' admirable paper that the patients who survived the operation of resection were operated on not later than the third day and that those operated on after that time all died. If this be so—and I trust Mr. Franks will correct me if I am in error—there is then no reason to believe that after four or five or more days' delay resection of gut will result in any greatly improved statistics; whilst, on the other hand, it is fortunately a comparatively rare occurrence to find gangrenous intestine before the third day of strangulation, and I cannot doubt that in many of the successful cases the gut resected was not gangrenous in the sense in which the term is commonly used by English surgeons. I do not at all wish to condemn the operation of resection in suitable cases, but, on the other hand, I do wish to point out that too much must not be expected from it and that if patients are left too long unrelieved death is most likely to ensue whatever line of treatment is adopted. The routine performance of resection in all cases of gangrenous gut can only bring the operation into disrepute. I am, Sirs, yours truly,

Manchester-square, May 13th, 1893. ANTHONY A. BOWLBY.

"GLYCOSURIA AND AMMONIACAL FERMENTATION."

To the Editors of THE LANCET.

SIRS,—Under the above heading Dr. Bays, in THE LANCET of May 13th, publishes a case of glycosuria in which ammoniacal decomposition of the urine took place in the bladder, and he argues that the case stands in contradiction to a statement made by me in THE LANCET of Feb. 25th, to the effect that if a saccharine urine be impregnated with both the ammoniacal ferment and with the lactic ferment the lactic fermentation always gets the upper hand, and the development of the ammoniacal fermentation is thereby prevented. Dr. Bays, however, brings forward no evidence that the lactic ferment had gained entrance into the bladder in his patient. The urine, it is true, was saccharine; but a saccharine urine is as susceptible of the ammoniacal fermentation as any other urine provided the ammoniacal ferment be alone in the field. The real inference in Dr. Bays' case is that the ammoniacal ferment alone had effected an entrance into the bladder and that its action was therefore uncontrolled by any antagonistic ferment. To prove his point Dr. Bays must show that the lactic ferment was also present in the bladder with the ammoniacal ferment. His case, as it stands, in regard to its bearing on my statement is therefore entirely beside the mark.

I am, Sirs, yours truly,

Manchester-square, W., May 15th, 1893. WM. ROBERTS.

"BURIAL OR CREMATION?"

To the Editors of THE LANCET.

SIRS,—As you mention the exception taken at Liverpool that my insistance on the burial of the dead as soon as the rigor mortis has passed off may possibly lead to interment before life is extinct, will you kindly—whilst reminding your readers that the cessation of the rigor mortis is in reality the com-

mencement of putrefaction—do me the favour to reprint the annexed cutting from *The Times* of May 19th, 1875 :—

"The following question, arising out of an apprehension admitted to exist lest a curtailment of the interval now allowed between death and burial might lead to the accident of interment before life was extinct, has been proposed to us by Mr. Seymour Haden :—

"'As hospital physicians and surgeons of extended experience, has it ever occurred to you to see a case of so-called suspended animation or trance which, in your opinion, could be mistaken for death; and do you think, the present state of our knowledge and resources considered, that the occurrence of such a case or of such a mistake can be regarded as possible?'

"In reply to this question we desire to say that no case of the kind it suggests ever presented itself to any of us and to express our confident belief that the dread of the possible occurrence of such a case is without support in the medical experience of this country; and, further, that the signs of death are as certain after a few hours' suspension of the vital functions as they can be after many days. It would, we feel, be a matter of regret, and an indication of a low state of public intelligence, if the groundless fears to which our attention has been directed by Mr. Seymour Haden should hinder for a moment the adoption of an improvement in our social system, the importance of which cannot be overrated.

GEORGE BURROWS, M.D., President of the Royal College of Physicians.
WM. FERGUSSON.
WILLIAM W. GULL, M.D.
WILLIAM JENNER.
JAMES PAGET.
THOMAS WATSON, M.D.

"London, March 13th, 1875."

Perhaps, also, at the risk of repeating myself, you will allow me to lay stress once more on the following facts: 1. That it is the retention in the dwelling-house of the body after putrefaction has well set in which necessitates the use of the strong coffin, and again that it is the strong coffin which is the cause of all the evils that surround the subject; but the source of these evils is to be found, in fact, not in the burial of the dead, but in the unreasoning sentiment which prompts us to keep them unburied as long as possible and then to bury them in such a way that the earth can have no access to them. 2. That, were the dead only properly buried, not one of these evils would have any existence, not a single dead body would remain to encumber the soil, and a quantity of land of incalculable value, now hopelessly alienated, would be liberated for purposes of hygiene or of utility. 3. That the remedy for such evils is, therefore, not in cremation or in any of the alternatives that have been proposed for burial, but in a sensible recognition of, and a timely submission to, a well-defined and all-sufficient law of nature. 4. That the destruction by cremation of all demonstrable evidence of the cause of death—of all such evidence, that is to say, as is only to be obtained by the exhumation of the body—is a danger to society and an arbitrary act on the part of an irresponsible body of persons, which ought to be at once made the subject of competent investigation and, if its dangerous character is recognised, to be declared illegal. It would seem, therefore, that what is wanted is not a Bill to regulate cremation—which on the contrary, as a measure of public safety, ought rather at once to be declared a misdemeanour—but a Bill to regulate safe and proper burial, which Bill to be effectual should contain the following provisions: (1) For burial within the earth as the only legal mode of disposing of a dead body; (2) for a limitation of time beyond which it should be illegal to keep a dead body unburied; (3) for the illegality of strong coffins, brick graves and vaults, and all contrivances having for their effect to prevent resolution, and to confer on the dead a tenure, practically illimitable, of the soil which is necessary for the purposes of the living.

I am, Sirs, yours faithfully,

F. SEYMOUR HADEN.

Woodcote Manor, Alresford, Hants, May 15th, 1893.

"DIET IN CHRONIC BRIGHT'S DISEASE."

To the Editors of THE LANCET.

SIRS,—It is to be hoped that any discussion arising with regard to the question of diet in chronic renal disease will have the effect of producing considerable modification by the profession of the indiscriminate and routine prescribing of the so-called milk diet in all cases of albuminuria. I say "the profession" because I cannot agree with your correspondent of last week (Dr. Donkin) that "nephrologists" are responsible for the too general application of theoretic views. On the contrary, I would say that most writers, certainly English, have pointed out that the cases in which benefit is to be obtained by the exclusive use of milk, or the so-called "milk diet," belong almost exclusively to the recent and acute form. Dr. Saundby, a distinguished "nephrologist," in his published Lectures on Bright's Disease, p. 271, 1889, is "convinced that absolute milk diet is in many cases not only unnecessary and extremely distasteful to most patients, but positively harmful." In my own work on "Diseases of the Kidney" &c. I state of this diet: "Though of little use—indeed, I have in one case found it positively do harm during an early stage of the disease—it is most advantageously employed during the subsidence of the attack" (p. 262); and again (p. 263): "Although absolute milk diet should never be omitted when the albuminuria is persistent, still there are many cases that get well without the necessity for employing such a rigorous measure"; and finally (p. 265) I express my opinion that the "importance of regulating the *quantity* of the food, and not overloading the digestive organs, is greater than rigidly supervising the *quality*." These expressions can hardly be taken as applying to a "theoretically strict diet," and I could quote others.

The fact is that, milk in large quantities having been found useful in cases of acute and subacute nephritis for clearing off the dropsy, especially during the subsidence of the attack and whilst the patients are still active and vigorous, the profession have somewhat indiscriminately employed it in all stages of nephritis. The rule as regards dietetic treatment in chronic Bright's disease should always be guided by the condition of the heart and vascular system and not so much by the amount of albumen and excretion of urea. So long as the pulse has a high tension and the left ventricle is still heaving with strong impulse, a light, not necessarily low, diet should be insisted on. On the other hand, when the pulse is failing and the heart muscle degenerating more liberal diet is called for and must be judiciously given; for in these cases one has to steer between two dangers—on the one hand uræmia, on the other cerebral hæmorrhage. When arterial tension falls too low, then there is an increase of uræmic symptoms; if raised too suddenly, then there is a danger of a degenerated vessel giving way. Between these two the medical attendant has to steer, and the slightest deviation to either side may bring him ashore; for, though I have seen many cases of uræmic convulsions induced by an injudicious attempt to push the "milk diet" in chronic Bright's disease, I have seen cerebral hæmorrhage also follow in cases where a meat diet, though limited, had only been resumed a few days. Close and frequent examination of the heart and pulse in these cases furnishes a more satisfactory guide of the requirements of the patient than what can be learned from estimations of albumen or of urea.

I am, Sirs, yours faithfully,

CHARLES HENRY RALFE.

Queen Anne-street, W., May 15th, 1893.

VACCINE LYMPH IN THE TROPICS.

To the Editors of THE LANCET.

SIRS,—In this moist, hot climate the great obstacle to the preservation of animal vaccine paste has hitherto been the difficulty of storing it so as to prevent its contact with the "living air." Here the air, at all times and especially during the rainy season, is laden with vegetable germs; then one's boots acquire overnight a bloom of mildew; paste or glue of any kind soluble in water becomes food for bacteria and moulds, so that book-bindings and instrument cases, if not otherwise securely fastened, fall to pieces, and even glycerine, if exposed for a few days, affords nourishment to a luxuriant growth of black mould. The paste is prepared in the ordinary way by thoroughly mingling the scrapings of the vesicles with glycerine. I have tried several kinds of receptacles—tiny porcelain jars with screw lids, homœopathic phials with corks, or paraffin stoppers and other similar plans—with disappointing results, all these methods involving more or less exposure of the paste to the air when the vessels are opened, necessitating at the same time touching and perhaps contamination of a considerable portion of the mass on the introduction of an instrument to take a portion for use; the result being that the paste loses its active properties in a week or two. I lately had the good fortune to hit upon the idea of using tiny pewter collapsible tubes with screw caps for storing the paste. I obtained a supply from London, and introduced them to the Municipal Vaccination Department here. The result has been most gratifying; the head vaccinator assures me that paste stored in this manner

may be used during two months with excellent effect. Allow me to recommend those of your readers interested in this matter to give the tubes a trial. During the last ten years we have used in Rangoon a vaccinating instrument which I found absolutely necessary in using calf lymph. It consists of an ivory pencil case in one end of which are fastened the points of three or four needles, in the other is a tiny spatula of metal or ivory. With the latter lymph is well rubbed into abrasions made with the needles. I have in my waistcoat pocket a little tube holding about half a drachm of the paste; from this I can remove the screw cap and squeeze a particle of paste on to the point of the spatula and replace the cap securely in a few seconds. A portion the size of a mustard seed is sufficient for three vesicles. In England, where the paste may usually be kept much longer than in hot climates, I believe that public vaccinators and general practitioners would find the method described convenient and satisfactory.

I am, Sirs, yours obediently,

T. F. PEDLEY,
Late Health Officer and Superintendent of Vaccination, Rangoon Municipality, Member of the Burma Sanitary Board.
Rangoon, April 22nd, 1893.

THE LEPROSY COMMISSION REPORT: THE LEPER CENSUS IN INDIA.

To the Editors of THE LANCET.

SIRS,—The report of the Leprosy Commission just published and commented on in THE LANCET states that in India there has been no increase of leprosy, and in proof of this statement the Commissioners refer to a comparison of the censuses of 1880–1 with 1890–1. In my book on "The Recrudescence of Leprosy and its Causation," I have given the figures of both returns as supplied by the Indian Census Commissioner, and have furnished an analysis of the same. I have also given data to show that the circumstances, conditions, and restrictions under which the last census was made varied materially from those observed in 1880–1 and were all in the direction of minimising the result. Briefly stated these are as follows:—1. In Rule 14 of the census forms distributed in 1890–91 instructions were given that leucoderma, or "white leprosy," was to be excluded from the infirmities to be returned by the enumerators. In the forms used in 1880–81 "white leprosy" is not mentioned. 2. In the forms used in 1890–91 I find the following instruction to the enumerators:—"You are to make all the entries as the person himself or his guardian states and not to dispute his statement." In the census forms of 1880–1 no such instruction appears. Anyone who has studied leprosy in countries where the disease is endemic knows that with the exception of the very poor or those living in lazarettos or leper homes, none will admit that they are lepers. In the streets of leper districts I have encountered some of the most repulsive cases of true leprosy, where the poor victims resolutely denied that they were afflicted with this disease. 3. Leprosy is an insidious malady and can in its early stages be detected only by a leper specialist. Mr. Commissioner Ackworth, writing to me from Bombay, July 29th, 1891, says:—"I have plenty of lepers in my hospital here who could not be identified as such unless they were completely stripped and examined by a trained eye." 4. At the time the last census was made reports were circulated throughout India that all lepers were to be compulsorily segregated, and urgent demands for this segregation were made in the press. This led to a more extensive concealment of lepers by their friends than had previously obtained in India, and consequently to a serious reduction in the returns.

The Prince of Wales stated at Marlborough House, June 17th, 1889, upon what were believed by the highest authorities to be reliable data, that there were 250,000 lepers in India; and this for the reasons before mentioned may be approximately true. There is, therefore, a high probability of a recrudescence of leprosy in India and a certainty of its increase in many other countries. 5. The recrudescence, as I have shown by testimony from all parts of the world, has followed the introduction and extension of vaccination, and in support of this serious allegation I have given the evidence of distinguished leper specialists, supported by numerous medically certified cases of leprosy communicated in this way. Both the testimonies, which include those of leading dermatologists and lepra specialists (such as Drs. Gairdner, Hillis, Arning, Vandyke Carter, Bakewell, Blanc, Piffard, Alzevedo Lima, Hellat and Munro), and the cases appear to have been practically ignored by the Commission.

I am, Sirs, yours faithfully,

WILLIAM TEBB.
Devonshire Club, St. James's, London, W., May 9th, 1893.

*** We think it right on the present occasion to make an exception to our general rule and to publish the above letter from Mr. Tebb as the opinion of a layman who has for a long time assiduously, persistently, and, we believe, conscientiously, posed as an opponent to a method of prophylaxis which we and the medical profession in general consider (equally conscientiously) to be of inestimable service to mankind. We question the ability and the right of Mr. Tebb and his followers to dictate to the medical profession on such subjects as leprosy and vaccination. We also take this opportunity to observe that Mr. Tebb's "testimony from all parts of the world" lies under the grave disadvantage of being uncertified, to a serious extent, by a full statement of details of many of the cases quoted by him in his book.—ED. L.

"CASES OF CONTRACTED TENDONS."

To the Editors of THE LANCET.

SIRS,—In reply to Mr. W. J. Tivy's letter of May 9th explaining his position in regard to the "Cases of Contracted Tendons" which were recorded in your issue of April 22nd, I readily admit that I gave too little attention to the epithet "acquired" when commenting upon Mr. Tivy's use of the word "hammer-toe." There appears to be no difference between us except that I would restrict the latter term to cases of congenital origin. I will not attempt to discuss, in reference to Mr. Warrington Haward's letter of May 8th, the cause of the deformity, which is variously explained by different authorities, and which, when all is said, must still remain a matter of conjecture. My contention was that the essential feature of hammer-toe, at least in cases which require operation, is the flexion at the first phalangeal joint. Without this flexion the word "hammer" would have little significance. Unfortunately I am not familiar with those cases of which Mr. Haward speaks in which flexion has been overcome by division of extensor tendons. In all the cases upon which I have operated, and in others on which I have seen Mr. William Adams operate, the difficulty has been to straighten the flexed first phalangeal joint, and that difficulty has been mastered by division of the lateral ligaments.—I am, Sirs, yours faithfully,

Queen Anne-street, May 13th, 1893. J. MACREADY.

THE MOST NORTHERLY MEDICAL SCHOOL IN THE WORLD.

To the Editors of THE LANCET.

SIRS,—Some readers of THE LANCET may perhaps take an interest in the following memoranda of a brief visit made by me last summer to what must undoubtedly be the most northerly medical school in the world. I refer to the hospital at Reykjávik, the capital of Iceland, that desolate island whose northern coast is actually within the Arctic circle. The island is a trifle larger than Ireland and has an area of 39,000 miles and a population of 68,000 to 70,000. Taking it as a whole, the climate is very healthy, especially about the southern part, where the capital is. The hospital is situated in the northern part of the town on a slight eminence. It is an oblong, two-storeyed building of wood with a zinc roof and has accommodation for thirty-two in-patients. There are no regular wards, but both floors are divided into small cubicles like school dormitories, each for the accommodation of one patient. On each floor is an extra long room fitted round with cupboards for drugs and instruments and used for operations. The staff consists of three medical men (the only three in the capital), and the number of students varies from five to eighteen. They do the first three years of their work and their examination here at this school, but have to go for their final year and final examination to Copenhagen. The senior physician or surgeon—for they all seem to teach and practise medicine and surgery indiscriminately—Dr. Georg Schierbeck, was most kind in showing me over the building and giving me information, and I had the pleasure on two separate occasions of going round the wards and seeing him treat his out-patients. The

hospital has a nursing staff of six nurses, two always being present in the hospital, one for each floor. I may mention that the authorities do not seem particular as to the numbers of men and women admitted, or whether they are medical or surgical cases, but take them indiscriminately according to the urgency of the case. The vital statistics of Iceland are: Birth-rate, 33 per 1000; death-rate, 24 per 1000. Iceland has been a victim to severe epidemic attacks of influenza, according to the oldest records, up to the present day. The following years were the ones of its chief visits: 1627, 1669, 1705, 1719 (confined to the north of the island only), 1730, 1735, 1736, 1776, 1804, 1816, 1825, 1834, 1839, 1843, 1855, 1856, 1860, 1866, 1882, 1883, 1879, 1891. Dr. Schierbeck told me that in the 1891 outbreak the temperature of the patients rose to extraordinary heights—in fact, far higher than he had ever noticed in any other outbreak—and the eyes in many cases were affected, which was a new feature.

It has been noticed that the disease always spreads from the south of the island to the north, and it takes about five months to overrun the country. From this it is argued by some that it may be ascribed to the arrival at the south of some foreign vessel, the chief ports where most ships call being there. This has often been noticed in small island countries with the influenza type of diseases. A disease called by the natives "sullir" or "kist," which is really hydatid disease of the liver, produced by the egg of the "tænia echinococcus" from the dog, is endemic in the island; one-sixth to one-twelfth of the inhabitants suffer from it—chiefly the females, as they are in the houses all day with the dogs (of which Iceland is said to boast of one dozen per three inhabitants), especially in winter, when the men are out fishing or at work. Rheumatic affections are not as common as one would imagine in a country where most of the inhabitants are going about in wet clothing of one sort and another every day nearly all the year round. Dr. Schierbeck told me that rheumatic fever was very rare indeed and that he had only seen two cases in over twenty years' practice. All venereal diseases are rare, as the moral standard of the natives is very high—a strange contrast to their neighbours the Eskimo. Leprosy, of which I had the good fortune to see a great many cases, is on the decrease in Iceland. The deaths from leprosy in 1768 were 73 per 1000 and in 1863 were 15·7 per 1000.

In 1888 in the south of Iceland there were known to be only 148 lepers and in 1892 only about 35. Dr. Schierbeck, who showed me an early case he was treating in a native woman about forty years of age, was using electricity (an interrupted current) applied to the parts affected for half an hour a day, and he said that if it was taken in time it would sometimes completely arrest the malady. This patient had atrophy of the dorsal muscles of the hand and of the back of the calf of the leg; the skin of the face had that curious drawn, waxy appearance which is generally associated with leprosy. When the current, which was so strong that I could not bear to touch the sponges for more than a second, was applied to the affected part she did not seem to feel it a bit, and when Dr. Schierbeck interpreted my question to her she replied in the negative. I also saw in a village in the extreme south, where I went on purpose, two other cases, one in an early stage of the disease and the other far advanced—in fact, the most virulent case I saw: one foot had completely sloughed off, the patient's hand and fingers were nearly beyond recognition, and he had large ulcerated patches on his chest and thigh; his pulse was very feeble and his temperature far below normal. I heard that he died two days after I saw him.

Leprosy, as in the East, attacks males more than females. Epidemic pneumonia, called in Icelandic "taksott," is not uncommon, and in 1862 a visitation occurred. Phthisis is very rare in Iceland and pleurisy and bronchitis are not common. Iceland was visited by a severe epidemic of typhus fever in 1857 and 1860, accompanied by carbuncle-like boils. Enteric fever, called by the natives "landfarsot," is uncommon, and in 1840 there was an epidemic of cerebro-spinal meningitis. Whooping-cough and small-pox are very rare, also scarlet fever, and in all cases they have been traced to importation by foreign vessels calling at the island. I must not close without saying that, in spite of antiseptics being almost totally ignored, some good and successful surgery is done at the hospital; whilst I was there there were two nephrectomies done as well as an amputation of the middle third of the thigh, and when I left two weeks later all three cases were doing well.

JOS. RUSSELL JEAFFRESON.

St. Bartholomew's Hospital, May 15th, 1893.

"THE INFERIOR LARYNGEAL NERVE."

To the Editors of THE LANCET.

SIRS,—In my reply to Dr. W. R. Smith's objections to my late father's theory of the relationship between the phrenic and inferior recurrent laryngeal nerve in THE LANCET of April 1st I endeavoured to show—from (1) experimental evidence on animals, (2) laryngoscopic observations in man—the necessity of the recurrent laryngeals for quiet respiration. I do not think that these facts, so far as they go, tend to do otherwise than support this view; at any rate, Dr. W. R. Smith has not as yet demonstrated evidence to the contrary. It does not appear to me to require the comprehensive argument he demands, that if, as is without doubt admitted, there is a continued action between muscles so widely removed as the nasal muscles and the diaphragm, that a similar combined action should not exist between the muscles which open and close the glottis and the diaphragm. Admitting, for the sake of argument, Dr. Smith's contention that the nerve lengths in man are probably of no importance; yet, if we consider, on the other hand, the extraordinary length of the inferior laryngeals in a horse or giraffe, it is not improbable that they must modify in time of transmission the passage of a nerve impulse along their course. I find that I misunderstood Dr. Smith's objection as to the difference in length between the inferior laryngeals; it is, I fully admit, an important one and of much weight. I have no doubt but that Hilton was perfectly correct in his statement, and the following passage from Cruveilhier, to which my attention has been drawn by the kindness of my friend, Mr. W. H. Jessop, shows that even in those cases where the inferior laryngeal takes an apparently direct course it yet recurs, though not, of course, to such an extent. Cruveilheir says, after describing the abnormal arterial division on the right side: "Dans ce cas, dis-je, le nerf recurrent n'existait pas, mais était remplacé par plusieurs rameaux, qui naissaient successivement et à diverses hauteurs du nerf pneumogastrique. Du reste, la distribution collective de ces rameaux était la même que celle du recurrent lui-même. Ainsi les rameaux les plus supérieurs s'engageaient entre le cartilage cricoïde et le cartilage thyroïde en passant sous le muscle constricteur inférieur et allaient se distribuer aux muscles du larynx." In the museum of St. Bartholomew's Hospital is a specimen exactly illustrating this.—I am, Sirs, yours truly,

Finsbury-square, May 15th, 1893. ARTHUR T. DAVIES.

"DEATH CERTIFICATION."

To the Editors of THE LANCET.

SIRS,—The Select Committee of the House of Commons on Death Certification is doing a valuable work, which is likely to result in greater security to life and the compilation of more correct vital statistics than we have hitherto obtained. Broken links will be mended, "covering" by means of false certificates rendered impossible and the traffic in child life for insurance money will get a knock on the head. That is as it should be; but while the committee are at work they might as well turn their attention to other and greater evils than these. I refer more particularly to the vexed question of private surgical homes. Now, Sirs, I mean to be brief on this subject as it is rather a dangerous one to handle. What is a private surgical home? I really do not know; I believe it to be quite an anomaly. A consultation by two or more surgeons is held at all our public institutions before an important operation involving issues of life and death is performed. The consolidated orders of the Poor-law Board demand a certificate from an independent source testifying to the necessity of an operation taking place before the fee is paid to a district medical officer—and rightly so too. In a private surgical home the dictum of one man is final. What guarantee have we that that man is eternally infallible and that human life may not be sacrificed by him in his perhaps mistaken anxiety to relieve his patients? The lives of hundreds of human beings might depend on this one man's dictum and on his perhaps self-constituted supremacy and authority. The necessity for an operation in a private hospital, if such a place must exist, should be determined, not by the individual who is the proprietor thereof—the decision and responsibility involved should not rest on the shoulders of a single interested party—but by adequate and independent opinion, had and obtained before an operation is performed, and falling such opinion a coroner's jury should undoubtedly

investigate the circumstances connected with each fatal case and pronounce upon them.—I am, Sirs, yours truly,

Alexandra-square, S.W., May 15th, 1893. D. MACKINTOSH, M.D.

"INTRAVENOUS INFUSION OF ALCOHOL."

To the Editors of THE LANCET.

SIRS,—Upon reading in THE LANCET of May 6th Mr. Ballance's very instructive case of "Intravenous Infusion of Alcohol," it appears to me worth while to refer to a case reported by me in THE LANCET of Jan. 6th, 1892, which was under the care of Dr. Sturges at the Hospital for Children, Great Ormond-street. Here a child nine months old, suffering very severely from collapse due to diarrhœa and vomiting, was successfully treated by intravenous infusion of twelve ounces of normal saline containing eighty minims of brandy. In several succeeding similar cases at the Children's Hospital I injected salt solution, omitting brandy; in none, however, with ultimate success, and I think the reaction was not so rapid as in the first case. I was deterred from making further trials of brandy by the almost complete absence of authoritative statements with regard to the physiological action of alcohol thus introduced. Mr. Ballance has kindly handed me a note written a few days ago by Dr. Sherrington, who writes: "Very little is known experimentally about the effect of injecting alcohol properly diluted into the venous system. Doziel's is the only work I can find and it is very unsatisfactory. He concludes that alcohol stimulates the heart through the accelerator nerves, but says that after an interval it tends to stimulate the vagus and reduce the frequency of the heat." I would like to add that the proportion of alcohol used in my case was rather more than 0·5 per cent., and that this is perhaps a suitable strength in the case of infants.—I am, Sirs, yours truly,

Manor-place, W., May 13th, 1893. H. STANSFIELD COLLIER.

THE POST OFFICE, COLDBATH FIELDS.

To the Editors of THE LANCET.

SIRS,—You have been calling attention to the sickness amongst the clerks at the Money Order Office in Coldbath-fields. I have been attending one of them for ulcerated tonsils and debility such as would be caused by insanitary environments, and he informs me that the number of sick, which was formerly under 700, is now over 1500, and that nearly one-third of those employed were suffering from boils at the time when the Controller's attention was called to the unhealthiness of the place. Can the clerk whose health is injured by the neglect of his employers to keep the premises in a sanitary condition claim damages?

I am, Sirs, yours truly,

May 16th, 1893. FIAT LUX.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospital Saturday.

LAST Saturday, the 13th inst., was observed as Hospital Saturday in Liverpool, and the gradual growth of this valuable aid to our medical charities will be seen by the following figures: Hospital Saturday began in Liverpool as an adjunct to Hospital Sunday and was observed on the Saturday succeeding the first Hospital Sunday, Jan. 8th, 1871, being thus on Jan. 14th of that year. Having been hastily organised, the result was somewhat abortive, producing only £103 13*s.* 10*d.* Still to Liverpool belongs the credit of inaugurating Hospital Saturday, though to Birmingham falls the honour of instituting Hospital Sunday and also of showing what a princely sum may be obtained by steady organisation throughout the year and in all centres of labour. The fund in Liverpool has, however, grown from the modest three figures to £2000, £3000 and £4000, last year's total being £4439. This is the twenty-third year of the movement, and whilst the Hospital Sunday Fund has realised £155,032 the Hospital Saturday Fund has added to this the substantial sum of £55,029. Birmingham has peculiar advantages in being a centre of a large number of working men and women in constant employment—more so than in Liverpool and other large cities and towns where employment is with many only occasional. Still, the principle is the same, and if all those for whom hospitals have been established and maintained did their best the financial position of the hospitals would be much better assured and their managers would be spared much anxiety.

The Assizes.

Mr. Justice Wills has been presiding at the assizes which are held here in May. It has been his painful duty to pass sentence of death upon a man for the murder of his infant child by all but severing its head from its body. The prisoner lived at Horwich and was in the employ of the Lancashire and Yorkshire Railway Company. He had an unfortunate and wholly unfounded delusion that his wife was unfaithful to him, which delusion was always aggravated after he had taken drink. He had been drinking on the day he committed the crime, after perpetrating which he inflicted a wound on his own throat, which, however, was comparatively slight and soon healed. He was examined as to his state of mind by Dr. Joseph Wiglesworth, Medical Superintendent of the County Asylum, Rainhill, and by Mr. George Beamish, principal medical officer of H.M. prison, Walton; but beyond the delusion already mentioned there was nothing to indicate that he did not know right from wrong. Another man was indicted for murder, he having whilst under the influence of drink inadvertently killed a child fifteen months old by aiming a blow with a knife at his mother-in-law, which missed her and almost transfixed the child's body. The circumstances reduced the crime to that of manslaughter, and the prisoner was sentenced to twelve months' imprisonment, the judge warning him against intemperance in future. A third prisoner, a female, was to have been tried for the murder of her son by drowning him in the canal at Rochdale, but Mr. Beamish deposed that she was unable to appear. She was suffering physically from an acute form of kidney disease and mentally from melancholia and delusions. She was in an extremely critical condition and her appearance at court would prejudice any chance she might have of recovery. In answer to the judge Mr. Beamish expressed a fear that her condition was hopeless and that she would die. The case was sent to the next assizes.

Industrial Schools, Reformatories and Crippled Culprits.

In the current number of the *Law Quarterly Review* there is an article by Mr. W. J. Stewart, the Liverpool stipendiary magistrate, in which, *inter alia*, he laments that industrial schools and reformatories should shut their doors against little crippled culprits, who are more than all others in need of the help which such institutions confer. He considers, and with much justice, that the child who has lost a leg or hand or some fingers, or who is lame or crippled in one arm, and who is therefore certified as unfit for such institutions, "is peculiarly fitted for treatment in an industrial school or reformatory," for "a course of disciplinary training in the use of such bodily or mental powers as he or she may still possess would be invaluable." More than two years have passed since Mr. Stewart was appointed stipendiary magistrate to this large city, and it is evident that besides discharging his very onerous duties he has devoted much attention to the study of criminals, especially of juvenile offenders. He deprecates subjecting them to the unwholesome influence of the gaol and evidently prefers whipping. With regard to adults he shows how useless short sentences of imprisonment are to hardened offenders and particularly to confirmed drunkards. He instances the case of a female who has been before the magistrates more than 300 times, whilst others are runnning her close. He contends that incurable drunkards should be kept for much longer periods in institutions of a reformatory character. The article is well worth the perusal of all philanthropists.

May 16th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Housing of the Working Classes in Newcastle.

IN the Newcastle City Council this week precedence will be given to the consideration of the report of the Town Improvement and Sanitary Committees relative to the provisions of Part 3 of the Housing of the Working Classes Act, 1890. The scheme consists of lodging-houses for 300 males and 100 females and 50 separate tenements of one room each. The estimated cost of the proposed works is about £25,000. Similar undertakings in other towns have, it is said, paid

3¼ or 3½ per cent., whilst some have yielded as much as 6½ per cent. It is to be hoped, however, that the City Council will not look too much for a direct commercial return on the capital. Within the last few years large numbers of the poorer working classes have been unhoused by street improvements and railway extensions in Newcastle; this, of course, has led to overcrowding in the most insanitary parts of the city, and to an increase of rates owing to hospital and other requirements, which has gone on *pari passu* with the displacement of the poor.

Small-pox.

There was a Local Government inquiry at South Shields last week to take into consideration the application of the South Shields Council for sanction to borrow £1400 for providing a small-pox hospital. I hear that a fatal case of small-pox has taken place in the temporary hospital. Cases are reported in the Consett district, county Durham, also at Leadgate, where an innkeeper, his wife and daughter have contracted the disease. Cases are also reported from Northumberland. At Woodburn about twelve cases have been noted amongst navvies employed on public works.

Poisoning of Two Children at Tyne Dock by Hemlock.

A sad case of poisoning of two children by hemlock took place at Tyne Dock last week. They were brother and sister, and had eaten the plant where they found it growing on some waste ground. Unfortunately hemlock is at present in its greatest poisonous activity. As usual, we have an amount of newspaper controversy about the botanical characteristics of the plant and the necessity of impressing them upon all children in object lessons at school; but if children could be induced to refrain from eating all wild plants it would be more to the purpose.

Increase of Lunacy in the North.

A week or so ago I noted in this correspondence what appeared to be a wave of lunacy, so to speak, passing over the northern counties, and which at that time unfortunately took a homicidal turn. It is now said that within the last week there has been a remarkable increase of lunacy in Sunderland, no less than twelve cases having been admitted to the insane ward at the workhouse, whilst the average number is two a week. No reason is given for this unusual increase.

Newcastle-on-Tyne, May 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Health of Aberdeen.

IN his report for the month of April Dr. Matthew Hay states that the death-rate has been fully 18 per cent. under the average for the past ten years. The death-rates from miasmatic diseases are 61 per cent. lower, from diarrhœal disease 26 per cent., from tuberculous diseases 26 per cent., from respiratory diseases 14 per cent., from circulatory diseases 13 per cent., from urinary diseases 44 per cent., from nervous diseases 7 per cent., and from developmental diseases 23 per cent. lower. The only group in which the death-rate is above the average is that of digestive diseases (by 25 per cent.). The temperature was two degrees above the average and was higher than in the corresponding month of any year since 1883. The rainfall was small and less than one-half the average. During the month the sanitary inspector seized and destroyed as unfit for human food 1884 lb. of beef, 283 lb. of mutton, and 1208 lb. of fish.

Aberdeen Ambulance Association.

The last meeting of a highly-successful class, held under the auspices of the above association, took place last week under the presidency of Professor Ogston. Over 400 members had attended the lectures, which were delivered by Dr. Alexander MacGregor. Of these 300 presented themselves for examination, whilst about 250 satisfied the examiners and received the association certificate. The lecturer was the recipient of a handsome present from the class.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons.

A MEETING of the College will be held on the 22nd inst. to elect the following examiners:—For Letters Testimonial and Fellowship: Four examiners in Anatomy and Surgery, one examiner in Physiology and Histology, one examiner in Biology, one examiner in Pathology, one examiner in Midwifery and Gynæcology, one examiner in Physics and Chemistry, two examiners in Ophthalmology, three examiners for the diploma in Midwifery, four examiners for the diploma in Public Health (viz., one in Morbid Anatomy, one in Vital Statistics, one in Medical Jurisprudence and one in Law), six examiners for the diploma in Dentistry (viz., three Fellows of the College and three registered Dentists), and two examiners in General Education. A meeting of the Fellows will be held on June 3rd to receive the annual report of the College and also on June 5th to elect the president, vice-president, council and secretary for the ensuing year.

Health of Dublin: March Quarter.

In the Dublin registration district there were registered during the quarter 2525 births, being a rate of 28·9 per 1000; and 2452 deaths, or 28·1 per 1000. Zymotic diseases caused 255 deaths, being 224 below the March quarter of 1892. There were but 10 deaths from measles, against an average of 33 for the corresponding quarter of the last ten years; whilst the mortality from scarlet fever was even less—viz., 5, or less than one-sixth of the average number. There was an increase in the deaths from whooping-cough and also from typhoid fever, the latter disease causing 75 deaths against an average of 39; 14 deaths were attributed to influenza and a similar number to diphtheria.

Cork Water-supply.

The Local Government Board for Ireland have declined to appoint an expert to report on the condition of the water-supply of this town, but they authorise the Corporation, who are the sanitary authority, to do so and express the hope that they will take the necessary steps without delay.

Ballinasloe Lunatic Asylum.

At a meeting of the governors last week Dr. John Mills was appointed assistant resident medical superintendent to the asylum.

Richmond Lunatic Asylum.

An expenditure of £2200 has been authorised for carrying out various improvements in this institution.

Westmoreland Lock Hospital.

An election for a surgeon in the room of Professor Rawdon Macnamara, deceased, will be held by the governors on Saturday next, the 20th inst. The salary attached to the post is £110 per annum.

Resignation of Professor Redfern.

Dr. Redfern has just resigned the chair of Anatomy and Physiology at Queen's College, Belfast, which he has held for the lengthened period of thirty-three years. When he came to the Belfast school in 1860 the highest number of students in attendance on the class of anatomy was seventy-nine, whilst during his *régime* the number rose to a maximum of 325, and chiefly owing to his energy the present admirable *suite* of medical buildings were erected at the College. In future the chair will (as was announced in THE LANCET of April 22nd) very wisely be divided, and already I hear there are several very eligible candidates in the field for the two professorships of Anatomy and Physiology.

Proposed Testimonial to Dr. Redfern.

On Friday afternoon, May 12th, a meeting of Dr. Redfern's colleagues and former pupils was held in the council-room of Queen's College, Belfast, to make arrangements to show in some way their appreciation of his great ability, high character and distinguished scientific services. The president (Rev. Dr. Hamilton), who occupied the chair, having referred to the great services Dr. Redfern had rendered to the Belfast School of Medicine, it was decided unanimously, as the most suitable way of marking the occasion of his retirement, to place a presentation portrait of him in the Great Hall of Queen's College (where already there are portraits of Carlisle, Andrews, and Gordon), with a replica for the members of his family, and to establish a prize (to be competed for by Queen's College students) to bear his name. The Right Hon. the Lord Mayor of Belfast (Sir Daniel Dixon) was requested to act as treasurer, and the following were appointed honorary secretaries: Sir W. Quartus Ewart, Bart., Thomas Sinclair, D.L., Robt. L. Hamilton, J.P., Prof. Sinclair, M.D., and John W. Byers, M.D. A committee was formed, consisting of the President of Queen's College, Belfast, the College Council, the medical professors, and the following gentlemen: the Lord Mayor of Belfast, his Grace the Lord Primate, the Bishop of Down and Connor, the High Sheriff of Antrim, Rev. Professor Todd

Martin, D.D., Mr. Adam Duffin, LL.B., the President of the North of Ireland Branch of the British Medical Association, the President and Secretaries of the Medical Students' Association, and the President and Secretaries of the Ulster Medical Society. The honorary secretaries will shortly draw up and circulate a letter inviting subscriptions, to which it is certain that Dr. Redfern's very numerous pupils, scattered all over the United Kingdom and the Colonies, will gladly respond.

Belfast Dispensary Appointments.

At a meeting of the Belfast Dispensary Committee held on Monday for the election of three medical officers the following gentlemen were appointed: Dr. Alexander, Dr. Jamison and Dr. Fulton. Before the election the enclosed resolution was discussed and passed by a large majority:—"That no gentleman holding any medical appointment under the Belfast Dispensary District will under any circumstances whatever be permitted to reside out of his sub-district, nor will he be allowed to open any shop for the supply of medicines to other than private patients during the tenure of his office as medical officer; and that in case of a breach of this resolution he will be called upon to resign, and in case of refusal will be peremptorily dismissed."

May 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

A Clinical Temperature Alarum.

AN ingenious Frenchman—M. Tavernier by name—has recently invented an apparatus for registering a rise of temperature through friction in any part of a machine or in a mass of grain through fermentation. The apparatus consists of a small metallic bulb half-filled with ether, the bulb being hermetically sealed by a corrugated cover. Any elevation of temperature in the medium in which the bulb is placed causes, through the expansion of the ether vapour, a straightening out of the cover, which is then made to complete an electric circuit working an electric bell. Some medical friend has doubtless told M. Tavernier that in certain diseases—rheumatic fever, to wit—the discovery of hyperpyrexia suddenly produced is of the utmost importance. Nothing can be easier than to fix his bulb in the axilla of the patient, any sudden rise in whose body-heat is announced by the ringing of the bell and the consequent rush of alarmed nurses and students to the rescue. But the inventor goes even further and dreams of a time when a whole series of patients in a ward shall wear his apparatus tucked in their armpits, each bulb being connected with a numbered indicator placed in the *salle de garde*, or house surgeon's room. The dresser or house physician will then only have to lift his eyes from his plate and read on the indicator the intelligence that No. 5 or 6 in such and such a ward has transgressed the limits of temperature. When will these halcyon days dawn upon us?

Essences as Antiseptics.

M. Lucas-Championnière has recently, in his wards at Saint-Louis, given a trial to certain essences—such as essence of canella—as substitutes for carbolic acid, sublimate solution &c. In this connexion I may remind the readers of THE LANCET that M. Chamberland has proved experimentally in his laboratory the superiority of canella over even corrosive sublimate in antiseptic power. Being only slightly soluble in water, the essence of canella is irritating to the skin. Retinol has accordingly been utilised as a solvent, the solution thus obtained being at 1 per cent. devoid of all irritable properties. The essence of canella thus used must, however, be rectified, when it bears the name of cinnamol. An ointment composed of cinnamol, retinol and wax has been found to promote healing in aseptic wounds. Similar successful experiments have been made by M. Lucas-Championnière with the essences of vervain and geranium. It was noticed that absorption evidently took place, proof of it being discovered on analysing the urine.

Mediterranean Fever.

In the *Annales de l'Institut Pasteur* Dr. David Bruce describes an affection which prevails throughout a large portion of the Mediterranean littoral and which, according to him, who has made a long and careful study of it at Malta, is quite distinct from typhoid fever and malaria. Clinically it reveals itself by fever, profuse perspiration and constipation, and it is accompanied with or followed by sharp pains, either of a rheumatic or neuralgic type, with swelling of the joints or of the testes. It lasts generally several weeks. Post mortem there are found enlargement of the spleen and parenchymatous changes in several organs. Peyer's patches are normal; neither the plasmodia of Laveran nor Eberth's bacillus are present. The prognosis is comparatively favourable, only about 2 per cent. of the sufferers succumbing. The etiology of the disease remains a mystery, but Dr. Bruce succeeded so long ago as 1887 in isolating the microbe peculiar to it. To this micro-organism he has given the name "micrococcus Melitensis." It is a slightly oval micrococcus, found singly, rarely in pairs and never in chains. It has no power of spontaneous movement. The discoverer has always found it in the spleen and frequently in the liver and kidneys of those who have died of the disease. On one occasion puncture of the spleen during life yielded specimens. Pure cultures have been obtained in gelatinised beef bouillon. Attempts at cultivation on potato have failed. Pure cultures inoculated into mice, guinea-pigs and rabbits gave only negative results. Of seven monkeys inoculated four died after having presented the same symptoms as the human being, and the microbe was found post mortem in their organs. The other three monkeys recovered after prolonged illness.

Disinfection of Paris Fever Nests.

The *asile de nuit* represents in this capital the London workhouse. The recent typhus fever epidemic teaches sufficiently the *rôle* that these "tramps' barracks" may play in the propagation of disease. In Paris they are eighteen in number, three belonging to the municipality, four to the Société de l'Hospitalité de Nuit, the same number to the Société Philanthropique, whilst the remaining seven were founded by divers philanthropists. A very sensible measure has just been decided upon by the Comité d'Hygiène et de Salubrité de la Seine in connexion with these refuges. Every evening special vans will be despatched to each *asile*. They will convey the clothing of all the newcomers to the municipal disinfecting ovens. In the morning they will be brought back, after having undergone a thorough disinfecting process. At bedtime nightshirts previously disinfected will be distributed to the inmates.

May 16th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Regulations regarding Cholera.

THE Provincial Board of Health, Ontario, has, under date April 11th, issued a series of regulations with reference to cholera which have been approved of by the Lieutenant-Governor in Council. Provision is made for the appointment of medical inspectors should the disease appear on this continent, and their duties are defined; instruction is also given as to the isolation of cases, the detention of suspects and the proper disposal of the dead. Pamphlet No. 1, 1893, is also issued as a guide for the proper carrying out of these regulations. The board recently had a series of lectures delivered upon the subject of cholera, with the view of having a staff of medical men fully prepared to deal with an outbreak of the disease should such unfortunately occur. Certainly, so far as Ontario is concerned, the board is prepared for prompt and efficient action. Dr. Montizambert, the officer in charge of the Dominion quarantine stations, has, it is stated, accommodation for nearly 500 cabin and 2000 intermediate passengers, and a landing place has been provided at Louise Dock, Quebec, for the convenience of passengers from vessels with a clean bill of health. There they will be granted certificates of disinfection, as the Government are providing the necessary apparatus for such being done.

Medical Appointments in Toronto.

Professor Charles Sheard (Trinity) has been appointed Medical Health Officer for the City of Toronto at a salary of $3000 per annum. Dr. Uzziel Ogden, Professor of Gynæcology, has been elected Dean of the Medical Faculty, University of Toronto, in succession to Professor W. T. Aikins. Dr. G. Sterling Ryerson, Professor of Ophthalmology and Otology, Trinity Medical College, Toronto, was recently returned at a by-election as the third representative for Toronto in the Local Legislature by some 500 majority over Dr. W. W. Ogden, late Professor of Jurisprudence, University of Toronto.

Asylums for the Insane.

In the province of Quebec the asylums for the insane are not State institutions or even under State inspection, but a system prevails of farming the insane out to religious sisterhoods. The institution at Beauport has until recently been owned by three private individuals. Upon the expiration of their contract the Sisters of Charity were anxious to purchase the building and secure the Government contract. This is the only portion of the Dominion where members of the Romish Church control these institutions.

Infectious Diseases.

Cases of small-pox have been reported as having occurred amongst immigrants from Europe. The sufferers have been detained at the ports of debarkation. In Montreal a case of typhus fever is stated to have occurred in an English immigrant.

By the Public Health Act, passed at the last session of the Manitoba Legislature, a provincial board of health has been appointed, Dr. O'Donnell (Winnipeg) being chairman and Dr. Jamieson secretary. The province has been divided into three districts and inspectors have been appointed for each.

Dr. Strange (Toronto), Dr. Campbell (Quebec) and Dr. Neilson (Kingston), who are connected with the military schools at these cities, have been appointed a board to draw up regulations for the care of sick volunteers during the different encampments throughout the Dominion.

The graduating classes of the Universities show but slight variation in numbers from those of preceding years. Those receiving their degrees make a total of 181 as follows: Toronto, 50; McGill, 46; Queen's, 23; Trinity, 56; and Western, 6.

April 29th.

Obituary.

CHARLES E. H. COTES, M.A., M.B., B.C. CANTAB., F.R.C.S. ENG.

BY the death of Mr. Charles Cotes at the early age of thirty-three surgery has been deprived of a disciple of the energetic and practical sort that no profession can well spare, the school of St. George's Hospital has lost a clinical teacher whose place it will be difficult to fill and a very large number of his contemporaries have to mourn the loss of a personal friend. Mr. Cotes was the younger surviving son of Major Cotes, R.A., and was born in 1860. He was educated at St. Paul's School and Gonville and Caius College, Cambridge, where he graduated in arts in 1882 and in medicine and surgery two years later, having been assistant demonstrator of anatomy in the University Medical School. His university career was as successful socially as academically, for he represented his college on the river and in the football field and during the whole of his residence was most popular. He then returned to St. George's Hospital, where he had already done a year's work, and after filling numerous minor appointments became house surgeon in 1884 and took his Fellowship of the College of Surgeons in 1885. It was at this time that he began to exhibit his remarkable abilities as a teacher, and six generations of students at St. George's Hospital can testify to the practical value of his demonstrations in surgery. In the first place he was absolutely simple and clear. The plan of what he had to say was in his mind and he never deviated from it. If a point should arise requiring much detailed explanation he always perceived the danger: "Take it on trust for the present," he would say, "and when we have finished what we are talking about I will show you why." And he never forgot to return to the difficulty and he never failed to explain it Secondly, he was unconventional both in language and illustration; not that he degenerated into slang or triviality, but he knew the value of placing before his pupils those things which they must remember in as many lights as possible. The language of the text-book is often used by the student in a parrot-like fashion to conceal his ignorance, and Mr. Cotes went out of his way in his classes to obviate this—to put old things in a new light, to dress them in new words and to find new practical illustrations for his points. It was this quality that gave to his teaching its freshness and vigour, and it was this that made his demonstrations an intellectual pleasure as well as an invaluable assistance in examination. In 1888 he was appointed surgeon to the Great Northern Hospital and to the Well-street branch of the Seamen's Hospital, and in 1889 he was elected surgeon to the Lock Hospital. His work at the last-named institution gave him opportunities for observation which led to more than one original contribution in surgery; and in particular he advocated in the pages of THE LANCET[1] a drastic treatment of early gonorrhœa, supporting his views, which have since been fairly generally adopted, by a large number of successful cases. There was no doubt that he was at this time doing too much. He resigned his posts at the Seamen's and Great Northern Hospitals, feeling probably that this was the case, but the step left him with the Demonstratorship of Anatomy at St. George's Hospital Medical School, enormous clinical classes in surgery in the wards, his work at the Lock Hospital, and a large and rapidly increasing private practice. It is probable that the multiplicity of his engagements and the excitement of successful work prevented him from realising how ill he was; and the onset of phthisis was in his case more than usually insidious, and although the mischief was on several occasions suspected a trip to Australia in 1891 was believed to have arrested it. But in the autumn of 1892 there came a serious break-down and it became clear to all about him and to himself that he must sacrifice the position to which he had already attained and his legitimate hopes of quick advancement in the profession that he loved and live out of England; but on May 4th last he died at Bournemouth, never having recovered sufficient strength to leave this country. No man of his time at St. George's Hospital had more endeared himself to all. His fascinating cordiality of manner no less than the sterling merit of his attainments will keep the memory of Charles Cotes green amongst his many sorrowing friends for many a year.

LOUIS MARKUSOVSZKY, M.D., OF BUDAPEST.

DR. LOUIS MARKUSOVSZKY, one of the best known of Hungarian physicians, died at Abazzia on April 21st at the age of seventy-nine. He first visited this country in 1854 and was so attracted by all that he saw and learnt here that he never missed an opportunity of repeating his visits and renewing the acquaintances which he then made. Notwithstanding increasing years and frequent ill-health, he accepted Sir Joseph and Lady Lister's invitation to stay with them during the Hygienic Congress of 1891. As the representative of his Government in the Public Health Department and of the profession in Hungary many honours were awaiting him, amongst them the honorary degree of LL.D. of Cambridge. Unfortunately he became so feeble that the journey to England had to be abandoned, yet he expressed a hope in his letters that he might yet again see "dear old England"—a hope which was, alas, never realised. Dr. Markusovszky was born in 1815 at Csorba in Upper Hungary, his father being the Lutheran pastor of the place; from him he obtained his elementary knowledge. Later he was sent to a school at Rozsnyó and he finished his education at the Protestant College of Kézsmárk. In 1834 he entered as a medical student at the University of Budapest and was recognised as an able and industrious student. He had the misfortune to lose his father in 1837, which necessitated his becoming a private tutor in a nobleman's family, so that he might earn the means to meet the expenses of his professional education and also to support his widowed mother and younger brothers and sisters. He returned to his professional studies as soon as he was able and in 1844 graduated as Doctor in Medicine and Surgery and became assistant to Professor Balassa, who at that time enjoyed a well-earned reputation as a teacher and an able operator. Professor Lumnitzer, who died two years ago, was a fellow assistant and a lifelong friend of Markusovszky. At Vienna he obtained a travelling scholarship and became acquainted with Hyrtl, Skoda, Hebra and Rokitansky, whose friendship he was fortunate enough to retain for life. He spent a winter session in Paris.

In 1847 he returned to Budapest and in 1848, on the outbreak of the war of independence, joined the army and served in military hospitals and on the battlefield. When General Görgei was wounded in the head near Komorn on July 4th, 1849, he took charge of him and accompanied him to Arad, Vilagos, into Russian captivity and into Austrian exile at

[1] A New Treatment of Gonorrhœa THE LANCET, Feb. 27th, 1892.

Klagenfurth. At the close of the war he returned to Budapest, but found everything changed; his master, Balassa, was in an Austrian prison, and the Austrian chief sanitary officer, Tognio, turned him out of the post of clinical assistant which he had held. A few years later Drs. Markusovszky and Hirschler applied to the Austrian authorities for leave to become private tutors at the University, but permission was not granted to either, on the excuse that the former was a Protestant and the latter a Jew. Markusovszky, however, persevered in his great object, the cultivation of medical studies in the Magyar tongue. In 1857 he founded the *Orvosi Hetilap, anglicè* "the Medical Weekly," and remained its editor for over thirty years.

In 1863 he organised a Hungarian society on the lines of our New Sydenham Society, which has up to the present published sixty-six volumes of original and translated works of English, French, German and other authors. For twenty-five years as Councillor of the Ministry of Public Instruction he exerted all his energies to advance the professional, general and intellectual welfare of his countrymen. His professional brethren and the general public never missed an opportunity of testifying to his great merits. Scientific societies and the Academy of Sciences bestowed upon him all the honours which it was in their power to grant, and he was decorated with the Orders of Leopold and the Iron Crown by his sovereign. He was fond of travel and visited all the countries of Europe during his brief holidays. There are many most interesting incidents in such a life, which, however, do not come within the limits of an obituary notice, but which doubtless will be described by a biographer. Since 1890 his health had been gradually failing. Atheroma of the arteries and hypertrophy of the heart caused great anxiety to his friends. Last year his pulse frequently fell to 40, and at the end of March he went to Abazzia, on the Adriatic near Trieste, hoping to return to Budapest before April 10th to continue his plan for increasing the "Trefort fund" in memory of his friend the late Secretary of State, the object of which was to provide pensions for aged pastors and schoolmasters. He was for a time much benefited by the change to Abazzia, but two days before his intended departure his pulse began to fail, the weakness increased and he took to his bed again; the pulse fell from 20 to 15 and at one time was as low as 11 beats per minute. When his friend Professor Korányi arrived at his bedside from Budapest he found Dr. Markusovszky only half conscious, with Cheyne-Stokes respiration and a pulse of from 18 to 20. When consciousness returned for a few moments he inquired for his friends and spoke of the affairs of the University and on matters of public health, on most of which either he or his wife for him had made notes a few days before; these were entrusted to Professor Korányi. When he spoke for the last time he said to his attendant, Dr. Glax, "You ask me how I am; pretty well, but I wish, like Goethe, for a little more light." On the last day his pulse became thread-like, with a rate of 130; coma supervened, and he died at 3 A.M. on April 21st. He leaves a widow, who is a lady of high intellectual powers and has been a meet helpmate in all the successes of his life, but no family. The funeral service at Abazzia was attended by many old friends and comrades and also by the aged General Görgei, whom he had so devotedly followed and tenderly cared for during the eventful times of 1848-49. Amongst his English friends there are many besides Sir Joseph Lister, Sir Spencer Wells, and Sir Henry Acland who will remember the genial and kindly disposition of this professional brother. He admired England above any other country; and whenever he spoke of an ideal society and institutions, public and private, he pointed to England as an example to be followed.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations and having conformed to the by-laws, have been admitted Members of the College under the old regulations:—

Fletcher, Frederick James, L.R.C.P. Lond., Mas.n's College and Queen's and General Hospital, Manchester.
Martin, Frederic William, L.R.C.P. Edin., Charing-cross Hospital.
Newey, William Edward, L.S.A., Middlesex Hospital.
Nicholson, Edgar. L.S.A., Middlesex Hospital.
Simon, Robert John Richard Cobden, L.R.C.P. Lond., Royal Infirmary, Bristol, and Guy's Hospital.

The following gentleman, having previously passed the necessary examinations and conformed to the by-laws and regulations, and having now attained the legal age of twenty-five years, has been admitted a Fellow of the College:—

Gibbs, Charles, L.R.C.P. Lond., Charing-cross Hospital; diploma of member dated July 28th, 1890.

The following gentlemen passed the first professional Examination for the Diploma of Fellow in Anatomy and Physiology at a meeting of the Board of Examiners on the 15th inst.:—

Joseph Ganner, student of Mason's College, Birmingham; Ernest William Hey Groves, University College, Bristol, and St. Bartholomew's Hospital; John Percy Hall, Owens College, Manchester; John Howson Ray, Owens College, Manchester; Ferdinand Clarence Smith, M.R.C.S., L.S.A., surgeon-major, Indian Medical Service, University College Hospital; Charles Spurrell, M.R.C.S., L.R.C.P. Lond., Guy's Hospital; George Templeton, M.R.C.S., L.R.C.P. Lond., Edinburgh University and London Hospital; and William Morley Willis, Bristol Medical School. Twelve candidates were referred back to their professional studies for six months.

Passed on the 16th inst.:—

William Gladstone Clark, Cambridge University and St. Bartholomew's Hospital; Arthur Gaskell, M.R.C.S., L.R.C.P. Lond., University College Hospital; Harold Barr Grimsdale, Cambridge University and St. George's Hospital; Percival Seymour Harris, M.R.C.S., L.R.C.P. Lond., Middlesex Hospital; and Hunter Finlay Tod, Cambridge University. Fifteen candidates were referred back to their professional studies for six months.

ROYAL UNIVERSITY OF IRELAND.—The following have passed the Medical Degrees Examination:—

Upper Pass Division.—*Alexander J. Blayney, James Colville, *Thomas H. Delaney, *Emily W. Dickson, Ignatius Flynn, Alexander Jameson, *Robert E. Leathem, I. H. McGee, Robert Parkhill, *William J. Woods. (Those marked with an asterisk may present themselves for the further examination for honours.)

Pass Division.—Robert Allen, Catherine Arnott, R. M. Beatty, James F. Carroll, William Chancellor, Richard P. Crosbie, John S. Dick, Hugh Fisher, Charles H. Foley, A. Fulton, E. F. Hanrahan, William H. Heard, Thomas Hickie, Thomas Howard, John B. Johnson, I. Lane, William Lee, William Lyle, William J. McDade, William Monypenny, H. J. Moore, Daniel Murphy, Martin O'Dea, J. A. O'Leary, M. V. O'Reilly, Albert A. Peel, John C. Rowan, John Shine, James Stevenson, Augustus C. Stewart, and Francis Whitaker.

THE METROPOLITAN ASYLUMS BOARD AND SMALL-POX PATIENTS.—On Monday, the 15th inst., in response to an invitation from the Metropolitan Asylums Board, a large party of medical officers of health, members of the Council of the British Institute and others inspected the arrangements of the Board for dealing with the present outbreak of small-pox in London. Amongst those present were Mr. S. R. Lovett, president of the Metropolitan Branch of the Incorporated Society of Medical Officers of Health, the medical officers of health of the Port of London, Berks combined districts, Chelsea, Deptford, Fulham, Kensington, Marylebone, Newcastle, Newington, Woolwich, the county of Essex and the county of Warwick, the assistant medical officers of health of the London County Council, Surgeon-Lieutenant-Colonel J. M. Beamish, Surgeon-Major H. D. S. Compigne and Dr. Herbert Goude. The party were received at the North Wharf, Blackwall, in connexion with the River Ambulance Service, by Mr. A. C. Scovell, chairman of the Ambulance Committee, and Mr. W. M. Ackworth, chairman of the Small-pox Hospital Ships Committee, Mrs. Lawrie, and other managers, and proceeded in one of the ambulance steamers to the South Wharf at Rotherhithe, where full information was given as to the steps taken for the removal of small-pox cases from their homes to the hospital ships. This information appeared to leave little to be desired, but it is to be hoped that the Managers will fully utilise the ground at their disposal at Rotherhithe for the erection of buildings such as will make this station a model to serve as a guide for less favoured places. The party then proceeded to one of the hospital ships in Long Reach, where an inspection was made. Great admiration was expressed at the adequate and thoughtful provisions made for the treatment of small-pox cases, which opinion was confirmed by a subsequent visit to Gore Farm. The members of the party were hospitably entertained at luncheon by the Managers. In the course of a few remarks made by the chairman of the Hospital Ships Committee welcoming those present he alluded to the great difficulties the Board had to contend with in procuring suitable sites and invited the coöperation of the various sanitary authorities in their efforts in this direction. Mr. S. R. Lovett, in replying, assured the Asylums Board that the medical officers of health recognised the difficulties the managers had to contend against and appreciated their excellent work for the health of London.

A CENTENARIAN.—A man named Peter Johnson has recently died at Newry, aged 103 years.

THE NORTH-EASTERN HOSPITAL FOR CHILDREN.—We are informed that, in connexion with the dinner held on the 9th inst. at the Holborn Restaurant by the friends and officers of this hospital, and which was presided over by the Lord Mayor, the sum of £1197 was realised.

THE METROPOLITAN ASYLUMS BOARD.—At the fortnightly meeting of this Board, held on the 13th inst., Sir Edwin Galsworthy, the chairman, presented his ninth annual report to the Board. The total number of scarlet fever patients received during the year 1892 amounted to 13,093, and exceeded by 6556 the largest number admitted during any previous year. The greatest number of patients suffering from all classes of fever and diphtheria under treatment in the managers' hospitals at any one time was 4389, exceeding by 1389 the 3000 beds for all classes of fever which the Royal Commission on Fever and Small-pox Hospitals, in their report of 1882, considered would be sufficient for the requirements of the metropolis. The number of cases of infectious diseases notified to the managers amounted to 46,074, as against 26,522 in 1891 and 29,795 in 1890. The expenditure of the Board during the past twelve months had exceeded that of the previous year by the sum of £177,964, an increase largely attributable to the expenditure of a sum of £96,000 for the fitting up of temporary hospitals. The liabilities on loans on March 28th last amounted to £990,113, an increase of £3029 over last year. After a discussion it was agreed that a communication should be addressed to the vestries and district boards of works in the metropolis pointing out that, in view of all the circumstances of the case, it is probable that the accommodation for fever patients at the disposal of the managers will shortly become exhausted, and giving the local sanitary authorities warning of the probability of their being called upon to make provision for their own infectious sick.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Precautions against Cholera.

SEVERAL members of Parliament—to wit, Mr. Heneage, Sir Joseph Pease and Sir G. Baden-Powell—have issued a circular with the object of obtaining expressions of opinion as to the propriety of invoking Government assistance to defray the cost incurred by certain seaport towns in their endeavours to ward off an outbreak of cholera.

Death Certification.

We understand that the Committee on Death Certification will not hold any further meetings for the purpose of taking evidence until after the Whitsuntide recess.

THE HOUSE OF LORDS.

FRIDAY, MAY 12TH.

The Barbed Wire Fences Bill.

This Bill has passed through Committee, with amendments.

Licensing Boards Bill.

The second reading of this Bill was moved by the Bishop of London. The object of this measure, said his lordship, was to put the matter of licensing under the control of the people themselves; it was not, however, intended to interfere with any other proposals now before Parliament. The Bill was designed to transfer to boards elected by the Parliamentary voters of the various districts the licensing powers at present discharged by magistrates. At the end of five years the licences, with certain exceptions, would, it was calculated, be reduced from the present number to one in every 1000 of the population in urban districts and to one in every 600 in rural districts. All clubs in which intoxicating drinks were sold were to be brought within the scope of the measure. The owners of licensed houses which were suppressed were to receive compensation. Sunday closing was also recognised as desirable.—The Earl of Meath supported the second reading, and Lord Rookwood and Lord Norton opposed it.—Lord Kimberley gave it half-hearted support, whilst Lord Salisbury, on the other hand, objected very strongly to the Bill, as, in his opinion, it was proposing as a remedy for an evil which all deplored one which the progress of intelligence would ultimately supply. The second reading of the Bill was then negatived.

TUESDAY, MAY 16TH.

The Cholera Hospitals (Ireland) Bill.

On the motion of Lord Acton, this Bill was read a third time and passed.

THE HOUSE OF COMMONS.

FRIDAY, MAY 12TH.

Shop Hours Bill.

Sir John Lubbock brought in a Bill having as its object the earlier closing of shops, and it was read a first time.

Army Medical Staff Examinations.

Mr. J. E. Kenny asked a question on this subject, to which Mr. Campbell-Bannerman replied that he was aware that the General Medical Council had recommended that at the final examination for admission to the medical service assessors should be present in order to ensure that the education of the candidates was up to the proper standard; but for the examination for admission into the army medical staff assessors were not necessary, since candidates for that service were already qualified men.

Mortality in the North-west Provinces of India.

Mr. Schwann inquired if the attention of the Under-Secretary of State for India had been drawn to the excessive mortality of late in the North-west Provinces and Oude, as also in the Punjab, as compared with other parts of India.—Mr. G. Russell said that the death-rate in 1890 and 1892 was above the average, whilst the mortality in 1891 was below it. The official reports for the first-mentioned year attributed the high death-rate to climatic influences. The sanitary returns for 1892 had not yet come to hand. Conditions favourable to health were being compassed as speedily as circumstances would permit.

Meat Rations in the Army.

Mr. Woodall, replying to Mr. Hanbury, said that separate contracts were not made for home-killed and for refrigerated meat, the proportion of it, therefore, was not recorded, but was left largely with the contractor, the stipulation as to quality being assured. No difference was made in the amount of the ration, but 60 per cent. of frozen meat had been the rule since 1890.

Compulsory Vaccination.

Mr. Hopwood called the attention of the House to this subject and in a lengthy speech recounted the objections which had been repeatedly urged by the opponents of the practice. The first objection he brought forward was that compulsory vaccination was an infraction of the liberty of the subject. Then he spoke of the want of unanimity formerly existing amongst the medical profession as to the best mode of securing immunity against the attacks of small-pox, whether by inoculation or by vaccination. He next went on to speak of the repeated failure in the efficacy of the latter process and referred to the fictitious returns of vaccinated and unvaccinated persons as supplying a cogent argument for the discontinuance of the practice. He concluded by moving, "That the law compelling vaccination of infants and young persons is unjustifiable and ought to be repealed."—Mr. A. O'Connor seconded the motion. He remarked that there was a great deal to be said in favour of the resolution and very little for the existing law, which was unreasonable, unequal and unjust. Some medical men held that the danger from vaccination was small, others that it was great. The hon. gentleman then quoted statistics to prove that the operation had not been so effective as its advocates had averred.—Sir W. Foster, having warned the House of the danger of relying implicitly on the statistics put forward by the opponents of vaccination, expressed his opinion that the motion was inopportune, inconvenient and very injudicious. The Commission appointed by the late Government had devoted two years to the hearing of all the evidence which the opponents of the practice could get together, and just as the report of that Commission was about to be published the hon. gentleman came forward with his resolution, which directly attacked one of the main references of the Commission on which it was formed to report. The motion was, therefore, inopportune. It was also injudicious, because whatever benefit the hon. gentleman and his friends anticipated as the result of his motion would be discounted by the publication of the report. There was no heresy which might not be made to appear respectable by persecution. He (Sir W. Foster) proposed to defend vaccination on several grounds. In the first place, he believed it to be a great means of saving life. Before it was introduced the mortality from small-pox in England was appalling, something like 3000 per million annually. Now it had fallen to 178 per million. In Sweden, again, the deaths from small-pox before the introduction of vaccination amounted to the annual total of 2708 per million, but after vaccination became general the average number of deaths from the disease for the last seventy years had been 172. Copenhagen was cited as another instance of the benefit resulting from vaccination. In that city the annual death-rate from small-pox before vaccination was in vogue was 3567 per million; it was now 130, as a result of the practice of vaccination. By putting these figures in a summary form it would be seen that in London one person died as compared with 17 persons before vaccination; in England, one instead of 22; in Sweden, one in place of 12; and in Copenhagen one instead of 27. The number of epidemics had signally declined. The more vaccination was practised the greater was the decline in small-pox and in the number of deaths from it. In England, from 1847 to 1853, the total number of deaths from small-pox per million was 305—at that time vaccination was permissive only; from 1853 to 1871, when the operation was compulsory, but not enforced by penalties, the number fell to 223 per million; from 1872 to 1891, when penalties were enforced, the number fell to 89 per million. At the present time there were gathered together in London a mass of people such as the world had never before seen in a single city, yet small-pox was comparatively rare. He could show that sanitation had but little to do with the decline of small-pox. The motion, however, dealt with the mortality of infants and young persons. In infants under five years of age the diminution of mortality was no less than 89 per cent., and for children from five to ten years of age the decline was 72 per cent. In Sheffield, again, a recent epidemic disclosed the fact that the unvaccinated children died in the ratio of 480 as compared with the vaccinated. He thought he had given sufficient evidence in the shape of figures to show that there had been not only a great saving of life effected by the use of vaccination, but the disease it was intended to prevent was, when it did occur, greatly lessened in severity. In the course of his long and able argument the right hon. gentleman adduced numerous examples in addition to those already advanced to show the proved efficacy of vaccination as a preventive of that loathsome malady, small-pox. In his concluding remarks he just touched upon the objection that vaccination might in some rare cases have been the means of communicating disease. When Mr. Ritchie was President of the Local Government Board he was able to say that, though three-quarters of a million of children had been vaccinated annually for many years past, no case of the communication of syphilis by vaccination had ever come under his observation. As to the objection that compulsory vaccination was an interference with the liberty of the subject, the right hon. gentleman summed up his reply by appealing to the well-known maxim, "the greatest good of the greatest number."—Dr. Clark said that

there was nothing more misleading than statistics. He should vote for the motion because he thought it was just as reasonable for the State to insist on the baptism of a child as to compel it to be vaccinated. To be logical, vaccination should be compulsorily performed every seven years.—Dr. Farquharson said he was perfectly satisfied with the way in which the Secretary of the Local Government Board had dealt with the resolution, which was ultimately rejected by 136 against 70.

MONDAY, MAY 15TH.

Removal of Patients Suffering from Infectious Disease.

Mr. H. Fowler, in reply to a question put by Mr. Stephens, said he had no authority to prohibit the use of public conveyances for the purpose of removing persons suffering from infectious disease; but the managers of institutions devoted to the purpose of receiving such patients could make stringent regulations with a view of preventing any danger which might arise in connexion with such removal. Regulations of the kind had, he believed, been made by the managers of the Metropolitan Asylum District.

TUESDAY, MAY 16TH.

The Army Sanitary Committee.

Apropos of this Committee, questions were put by Mr. J. E. Kenny, Mr. Field and Mr. W. Kenny, and Mr. Campbell-Bannerman replied that, besides at informal meetings and discussions, the subject of the Dublin main drainage scheme had been brought under consideration by the Committee. The report had not as yet been presented, but the Corporation of Dublin had been officially informed that it would shortly be forthcoming. This inquiry would, he said, be completed this week.

WEDNESDAY, MAY 17TH.

The Water-supply of Landrindod.

Mr. Edwards moved that the Water Provisional Orders (No. 2) Bill be read a second time that day six months. He argued that the report of the inspector of the Local Government Board had gone to show that the supply of the Llandrindod Wells Water was deficient in quantity and defective in quality, and that by sanctioning the undertaking an unnecessary burden would be placed upon the ratepayers.—Mr. Burt and Mr. Lloyd-George having spoken, Mr. Mundella hoped that the opposition would not be persisted in. It was not right that the time of the House should be occupied by considering whether this or that water-supply were good or defective. On a division the motion was negatived, and the second reading was carried by a majority of 42.

THURSDAY, MAY 18TH.

The Swine Fever Question.

Mr. Jeffreys asked the President of the Board of Agriculture whether he proposed to take any action in order to carry out the recommendations of the Committee on Swine Fever.—Mr. Herbert Gardner, in reply, said he hoped to receive the evidence on which the report of the committee was framed in the course of the present week, and he would then be able to see how far it would be possible to give effect to the recommendations.—Mr. Chaplin asked whether it was not the case that the report contained nothing which could not have been obtained in the ordinary way through the department.—Mr. Gardner said he could only refer the right hon. gentleman to the report itself.—Mr. Chaplin said he had examined the report carefully and he would take the earliest opportunity of drawing attention to the matter.

The Buckland Collection.

Mr. Acland explained that the buildings at Kensington in which the collection of plaster casts of fish and models for fish culture left by Mr. Frank Buckland was kept could not be said to be very suitable, but the collection was believed to be in quite as good a condition as when Mr. Buckland left it. The authorities of the Natural History Museum declined to receive the collection and the Treasury had been in communication with the Marine Biological Association for the transfer of the collection, but up to the present without success.

Fatal Accidents in Scotland.

The Lord Advocate introduced a Bill to make provision for public inquiry in regard to fatal accidents occurring in industrial employments or occupations in Scotland. The Bill was read a first time.

THE COMMITTEE ROOMS.

DEATH CERTIFICATION.

THE Select Committee of the House of Commons on Death Certification resumed its inquiry on Friday, May 12th, Sir Walter Foster occupying the chair.

Dr. NASMYTH, Medical Officer of Health of Fife and Clackmannan and a member of the Society of Medical Officers of Health in Scotland, stated, in reply to the Chairman, that medical officers of health in Scotland experienced difficulty in getting data for their vital statistics. Under the English Act it was compulsory for the registrar to send extracts of deaths to the sanitary authority when called upon to do so, and he received a fee. In Scotland there was no such provision and in most of the counties there was great difficulty in getting the necessary information. The Board of Supervision instructed the medical officers of health to make certain returns, but they could not do so because they lacked the data. The registrars were appointed by the parochial boards, an arrangement that was sound enough when the parochial boards were the sanitary authorities, but now the district committees looked after sanitation, and he thought the appointments should be vested in them. If this were done the medical officers of health could obtain the information they now lacked. As to the system of certification, he considered that death-certificate forms were issued much too freely. They were as easily obtained as telegraph forms. He had come across an instance where a working man obtained some forms, forged the name of a medical man and in this way received £30 or £40 from a benefit or insurance society. It was not the case that friendly societies generally required a certificate from the registrar; a doctor's certificate was quite sufficient. In his opinion the form in every case should be issued by the local registrar and sent to the medical man with instructions to return it at once. He would have every form numbered and a record kept of their issue, and further, he would issue them only to registered medical practitioners. He had no complaint to make of looseness in certifying deaths in large public institutions or in private hospitals.

By Dr. Cameron: Frequently complaints were made of reluctance on the part of Procurators-Fiscal to order post-mortem examinations in suspicious cases. The excuse given was that the Crown exercised so close a supervision of the payments that they were obliged to keep down the expense as much as possible.

Mr. JAMES TAIT, Registrar for the Bridgeton District of Glasgow and secretary of the Glasgow Society of Registrars, expressed the opinion that the work of registration was well done in Glasgow. The registrars were all of a good class. Except as regarded two persons, they all devoted the whole of their time to the work of their office. Last year there occurred in his district 1425 deaths and of these 34 were uncertified, whilst in 1875 there were 238 uncertified deaths out of a total of 1224. The same satisfactory decrease in the proportion of uncertified deaths was to be found in the other districts of Glasgow. He attributed much of the improvement to the influence of the Friendly Societies Act and to the increasing desire on the part of the people to obtain medical certificates. In Scotland they had five examining inspectors, who went round the country seeing that the work of registration was properly done. It was possible to conceive that a person might die in his district and he might receive no intimation of the fact, but he did not think that any deaths escaped him. In his opinion, not only the cause of death but the fact of death and the identity of the deceased should be established. At present the only check they had upon the informant was the penalty provided by the Act, and when he suspected wrong information he conveyed his suspicions to the Procurator-Fiscal, who through the District Superintendent of Police would set the detective staff to work, and if necessary the police surgeon. Last year he reported forty-nine cases to the Procurator-Fiscal. In his opinion all stillbirths ought to be medically certified and registered. His practice was, in the case of a child whose life had been insured and where a certificate was not produced, to register the death but delay giving an order until the informants came with a line from the medical man. Witness cited several instances within his own experience where people had been punished for supplying false information. In conclusion, he expressed the opinion that all deaths should be certified by a legally qualified medical man.

Dr. R. R. RENTOUL of Liverpool was the next witness examined. Dealing first with stillbirths, he explained in detail the regulations with regard to them in force in Denmark, Belgium and other countries on the Continent. He had made inquiries as to stillbirths in this country and he had found that there was a considerable amount of stillbirths that might be prevented. Amongst other things, he had found that in about 1300 cemeteries over 15 000 stillborn children had been interred in twelve months. Of these over 4500 were interred without any medical certificate whatever. He suggested that all stillborn children should be registered in a special book and as deaths only; that the notification to the registrar should be made within twenty-four hours after birth, Sundays excepted, by the persons required by the Registration Acts to register a death; and that the fact and the cause of death and the identity of the stillborn child should be verified by a registered medical practitioner. He would regard as a stillborn child one which had completed the fourth month of intra-uterine life or upwards and which had not shown any sign of life after complete birth. He had prepared two forms of certificate, one for cases where a registered medical practitioner was present at the birth and the other for cases where he was not present. He had also prepared a certificate of identity of the stillborn child to be filled in and signed by two persons of full age who were present at the birth and who must certify that the body of the child inspected was the child of whom the person mentioned in the certificate was confined. Dealing with the general question of registration witness said that several registrars had complained to him of the small number of inspectors. He believed there were only two for the whole of England. In Liverpool the registrars were visited once in three years, so that there was very little opportunity for inquiry. His idea was that the Poor-law medical officers or the medical officers of health should in England be the registrars of deaths. He had spoken to three medical officers of health on the subject and they said they were quite willing to undertake the work. He would have each registrar furnished yearly with a copy of the Medical Register. Further, he would suggest that no registrar should accept the certificate of the cause of death unless it be signed by a registered medical practitioner, that the certificate should go directly to the registrar, that the suggestions issued by the Registrar-General must be conformed to and that the "Nomenclature of Diseases" of the Royal College of Physicians of London should be used in certifying the cause of death.

The Committee then adjourned.

The Committee met again on Tuesday, May 16th, Sir WALTER FOSTER presiding.

Mr. GEORGE BROWN, Hon. Secretary of the General Practitioners' Alliance, examined by the Chairman, expressed the view that the issue of false and irregular certificates of death by medical men was carried on to a considerable extent. In hospitals and dispensaries there was much looseness in connexion with certificates, and this often led to fraud and crime. To get rid of this he would insist on the dead body being inspected. One of the chief causes of illegal medical practice was, in his opinion, the present loose system of registration and certification of death. It was a common thing for a practitioner going away on a holiday to leave a number of certificates in blank for his unqualified assistant to use in his absence. In his opinion no death should be registered without a certificate from a registered medical practitioner or after full inquiry by the coroner or a medical officer specially appointed by some Government department. He would not have this officer appointed by the local authority because of the favouritism that prevailed in regard to medical appointments. At least four such officers would be required for London. It was not conducive to the public welfare that parish beadles or police officers should have the responsibility of deciding whether or not an inquest was necessary. Greater care should be taken in the selection of registrars, and in all districts the superintendent registrar should be a medical man not in practice. He would have death certificates forwarded direct to the registrar, the medical man receiving a small fee, say 2s. 6d., whilst as to stillbirths he would have them all inspected by medical men.

Dr. RUSSELL, medical officer of health in Glasgow, said, in reply to the Chairman, that during the twenty-one years he had held office considerable progress had been made in Glasgow in the method of controlling the certification of deaths. In 1871, the first year in which they classified the uncertified deaths, the percentage of such deaths was 24·4, in 1872 it was 22·9 and in 1873 and 1874 it was 23·0. The matter seemed so serious to the Health Committee that in April, 1875, a special committee was appointed to inquire into and report as to the various appliances in the city for giving gratuitous relief to the poor and the mode of obtaining such relief and the arrangements of the authorities as to uncertified deaths. Since that inquiry there had been a steady and progressive diminution in the number of uncertified deaths. In 1892 the percentage was as low as 4·0. The inquiry no doubt made everybody concerned in the certification of deaths very acutely alive to the importance of the subject. The friends were stimulated to exert themselves to get medical attendance, and since then the facilities for obtaining such attendance by the poor had been very much increased. After 1873 every death under five years was specially inquired into by an officer of the sanitary staff as well as every death from a zymotic or pulmonary disease whatever the age. The officer visited the house and made special inquiries. In 1885 the scope of this method was extended, and now every death of whatever cause and whatever age was inquired into. The greater part of the improvement in the certification of deaths in Glasgow must be credited to the influence of the Friendly Societies Act. In the first quarter after the passing of that Act he called attention to the matter in his report, so striking was the change. The reduction in the uncertified deaths was apparent all over the city but most marked in the poorer districts where the insurance of young children was most common. During his tenure of office there had been a considerable diminution in the number of cases where there was no medical attendance. In 1871 the percentage was 19·2, whilst last year it was only 3·0. Taking the returns of the Registrar-General he found that in 1890 the percentage of uncertified deaths in Glasgow was 3·0; in Edinburgh, 7·6; in Dundee, 2·8; in Aberdeen, 1·0; in Greenock, 2·7; and in Paisley, 3·3. He admitted that there was a difference between the figures he gave for Edinburgh and those given by Dr. Littlejohn. The explanation was that Dr. Littlejohn included amongst the certified deaths those certified by medical students which the Registrar-General excluded. In his experience the uncertified deaths occurred mostly at the extremes of life. He had prepared statistics as to the percentage of uncertified deaths amongst illegitimate and legitimate children for the years 1886–90. Amongst legitimate children under one month there were 3528 deaths, of which 812, or 23·0 per cent., were uncertified; one month and under one year 8519 deaths, of which 496, or 5·8 per cent., were uncertified; and one year and under five years 12,643 deaths, of which 405, or 3·2 per cent., were uncertified. Amongst illegitimate children under one month there were 563 deaths, of which 162, or 28·8 per cent., were uncertified; one month and under one year 1300 deaths, of which 245, or 18·8 per cent., were uncertified; and one year and under five years 909 deaths, of which 105, or 11·6 per cent., were uncertified. Those figures showed how terribly handicapped illegitimate children were at the start of life. As to the general question, he thought that death certificates should be paid for in the same way as notifications of infectious disease. In the absence of a certificate by a medical man there ought to be some form of inquiry. The police surgeon might be the person to undertake this inquiry because he had relationships with the criminal authorities. He would have all stillbirths registered and would not allow burials without a certificate.

Dr. JOHN GLAISTER, Professor of Medical Jurisprudence and Public Health in St. Mungo's College, Glasgow, and one of the police surgeons in Glasgow, made a number of suggestions to the Committee, including the reduction of the period during which deaths could be registered to five days, the sending of the certificate of death to the registrar by the legal informant of the death, the more careful supervision of the burial of so-called stillbirths and the investigation of uncertified deaths by an officer of the Health Department.

The Committee then adjourned until after the Whitsuntide recess.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALEXANDER, S., M.D., B.Ch. Irel., has been appointed Medical Officer for the Fifth District of the Belfast Dispensary.

BARENDT, FRANK H., M.D. Lond., F.R.C.S. Eng., has been appointed Honorary Medical Officer to St. George's Hospital for Diseases of the Skin, vice Cauty, deceased.

COLES, HERBERT D., M.B., C.M., has been appointed Junior House Surgeon to the Miller Hospital and Royal Kent Dispensary, vice C. H. Rock, promoted.

DAWSON, R. H., M.R.C.S., has been appointed Medical Officer for the Leverton Sanitary District of the East Retford Union.

FENTON, Dr. HUGH, has been appointed Physician to the Chelsea Hospital for Women.

FULTON, J., M.B., B.Ch. Irel., has been appointed Medical Officer for the Eleventh District of the Belfast Dispensary.

HARRISON, H. L., M.B. Camb., M.R.C.S., has been appointed Medical Officer of Health for the Kinson Urban Sanitary District of the Poole Union.

JAMISON, D., M.B., B.Ch. Irel., has been appointed Medical Officer for the Tenth District of the Belfast Dispensary.

KNOWSLEY, SIBLEY W., M.A., M.D., B.C., M.R.C.P., has been reappointed Clinical Assistant to the Skin Department, Middlesex Hospital.

LENNON, E. E., M.R.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer to the Meath Hospital and County Dublin Infirmary.

MCLEOD, P. S. H., M.D., C.M., D.P.H. Aberd., has been reappointed Parochial Medical Officer, South Division, New Deer, Aberdeenshire.

MILLS, JOHN, M.B., B.Ch. Irel., has been appointed Assistant Resident Medical Superintendent to the Ballinasloe District Lunatic Asylum.

MILLER, J. T. H., L.S.A., has been appointed Medical Officer, *pro tem.*, for the Norton Sanitary District of the Malton Union.

MITCHELL, A., M.B., C.M. Aberd., has been reappointed Parochial Medical Officer for New Deer, Aberdeenshire.

MOLE, ALFRED E., M.B., C.M. Edin., has been appointed Assistant Surgeon to the Liverpool St. George's Hospital for Diseases of the Skin.

O'BRIEN, C. M., L.R.C.S., L.R.C.P. Irel., L.A.H., L.M. (Rotunda), has been appointed Senior Resident House Surgeon to the Jervis-street Hospital, Dublin, vice Greeves, resigned.

PLETTS, J. M., M.D. Brux., M.R.C.S., has been appointed Medical Officer for the Ryde Sanitary District of the Isle of Wight Union.

PRINCE, HUGH TENNANT, M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Royal Berks Hospital, Reading.

PRIOR, E. T., M.R.C.S., has been appointed Medical Officer of Health for the Rural Sanitary District of the Lodden and Clavering Union.

RIGBY, W. C., M.B. Vict., Ch.B., has been appointed Medical Officer of Health for the Rivington Sanitary District of the Chorley Union, vice Whitham, deceased.

ROCK, CECIL H., M.R.C.S., L.R.C.P., has been appointed Senior House Surgeon to the Miller Hospital and Royal Kent Dispensary, vice H. C. Garth, resigned.

SWAN, WM., M.B. Oxon., M.R.C.S., has been appointed Medical Officer for the Pinchbeck Sanitary District of the Spalding Union.

THOMSON, GEO., M.B., C.M. Edin., has been appointed Medical Officer for the Workhouse and Clarborough Sanitary District of the East Retford Union.

WALLACE, A., M.D. Aberd., L.R.C.S. Edin., has been reappointed Parochial Medical Officer for Forglen.

WILLIAMS, J. H., M.D., C.M. Edin., has been appointed Medical Officer for the Flint Sanitary District of the Holywell Union.

WYLIE, WM., M.D., C.M. Glasg., has been reappointed Medical Officer of Health for the Kirkby Lonsdale Urban Sanitary District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CANCER HOSPITAL (Free), Fulham-road, S.W.—House Surgeon, for six months. Salary at the rate of £50 per annum, with board and residence.

CENTRAL LONDON OPHTHALMIC HOSPITAL, 238A, Gray's-inn-road, W.C. House Surgeon. Rooms, coals and lights provided.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W. — Honorary Physician to Out-patients.

COVENTRY AND WARWICKSHIRE HOSPITAL, Hay-lane, Coventry.—House Surgeon. Salary £100 per annum. Board (exclusive of beer, wine and spirits), rooms in the hospital and attendance provided.

COVENTRY AND WARWICKSHIRE HOSPITAL, Hay-lane, Coventry.—Assistant House Surgeon, for six months. Honorarium £15. Board (exclusive of beer, wine and spirits), rooms in the hospital and attendance provided.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Surgeon. Board and lodging provided.

GENERAL HOSPITAL, Nottingham.—Assistant House Surgeon, for six months. Board, lodging and washing in the hospital.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton. Assistant Physician.

MASON COLLEGE, Birmingham.—Professorship of Pathology.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—Junior House Surgeon, for six months. Salary at the rate of £20 per annum. Applications to the Secretary, 27, Clement's-lane, E.C.

NORTH-WEST LONDON HOSPITAL, Kentish-town-road. — Assistant Physician.

ST. GEORGE'S HOSPITAL, S.W.—Assistant Physician.

ST. GEORGE'S HOSPITAL, S.W.—Assistant Surgeon.

ST. LUKE'S HOSPITAL, London, E.C. — Clinical Assistant for six months. Board and residence provided.

STOCKTON-ON-TEES HOSPITAL AND DISPENSARY.—House Surgeon, non-resident. Salary £200 per annum.

SUNDERLAND INFIRMARY.—Honorary Medical Officer, for the Convalescent Home, at Heatherdene, Harrogate.

UNIVERSITY COLLEGE, London.—Dental Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—Resident Assistant, for six months. Board, lodging and washing provided.

Births, Marriages and Deaths.

BIRTHS.

BRIND.—On May 10th, at Warrenbayne, Ealing, W., the wife of H. Hanslow Brind, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARTIN.—On May 16th, at Mansfield-street, W., the wife of Sidney Martin, M.D., of a son.

MARRIAGES.

CAMERON—HUNTER.—On the 16th inst., at 51, Minto-street, Edinburgh, Albert Cameron, M.B., C.M. Edin., of Elms-road, Clapham-common, London, only surviving son of the late James Cameron, of Moscow, to Susan Hay, younger daughter of the late James Hunter.

GUNN—STIENSON.—On May 17th, at St. John's Church, Ulgham, by the Rev. Canon Robinson, assisted by the Rev. W. Sykes, Frank Walter Gunn, M.B., B.S., L.S.Sc. (Dunelm), M.R.C.S., L.R.C.P., L.S.A., to Minnie Evelyn Stienson.

DEATHS.

GARLICK.—On May 11th, at 11, Well-road, Hampstead, William Garlick, F.R.C.S., late of Great James-street, in his 73th year.

JOWERS.—On Wednesday, May 17th, at Birch House, Hayward's Heath, Frederic William Jowers, F.R.C.S., of 27, Old Steine, Brighton.

RUDD.—On May 11th, at Church-road, Upper Norwood, Leonard Rudd, M.D., aged 46.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 18th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
May 12	30·19	S.W.	58	51	115	80	50	...	Cloudy
,, 13	30·19	E.	61	56	116	76	55	..	Bright
,, 14	30·17	S.E.	58	54	113	73	50	..	Cloudy
,, 15	29·92	E.	64	58	122	77	50	...	Bright
,, 16	29·82	S.E.	59	55	103	71	55	...	Cloudy
,, 17	29·63	S.E.	58	56	86	68	54	0·13	Overcast
,, 18	29·60	S.W.	59	57	100	65	52	0·24	Cloudy

Medical Diary for the ensuing Week.

Monday, May 22.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.

Tuesday, May 23.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electrotherapeutics, same day, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Mr. Jonathan Hutchinson: On the Use of Arsenic in Skin Diseases.—Bethlem Hospital: 2 P.M., Dr. Percy Smith: Developmental Insanity, Circular Insanity.—101, Great Russell-st.: 8 P.M., Dr. Handfield-Jones: Cervical Dysmenorrhœa.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Adjourned Discussion on Mr. Alban Doran's paper on "Large Cystic Myoma of Uterus of over Twelve Years' Duration Removed by Enucleation; Recovery; with Notes on Cystic 'Fibroids.'"—Mr. Stanley Boyd: Enterorrhaphy by Invagination (Maunsell's operation), with a case of Artificial Anus treated by this Method.—Dr. T. Lauder Brunton: The Use of Atropine in Cholera.

Wednesday, May 24.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Green: Cases in the Wards.—Royal London Ophthalmic Hospital: 8 P.M., Mr. A. S. Morton: Optic Neuritis.

Thursday, May 25.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Great Ormond-st.: 4 P.M., Dr. Lees: Cases from the Wards.—National Hospital for the Paralysed and Epileptic: 2 P.M., Dr. James Taylor: Paralyses of Children.—London Throat Hospital (Gt. Portland-st.): 8 P.M., Dr. Whistler: Syphilis of the Throat.—Central London Sick Asylum: 5.30 P.M., Mr. Jonathan Hutchinson: Clinical Lecture.
NEUROLOGICAL SOCIETY OF LONDON (Physiological Laboratory, University College).—8.30 P.M. Adjourned Meeting. Dr. Sherrington: Photographs illustrating the Skin Fields of the Upper Sensory Roots. Mr. Boyce: Ablation of the Cerebral Hemispheres in Mammals.—Drs. Brunton and Carruthers: Experiments in elucidation of "Treadler's Cramp."—Dr. A. S. Grünbaum: On the Local Fibres of the Spinal Segment.—Prof. Schäfer and Dr. Flood: Some Results of Extirpation of the Lower Part of the Ascending Frontal Gyrus.

Friday, May 26.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Green: Hæmoptysis.—Bacteriological Laboratory, King's College: 11 A.M. to 1 P.M., Prof. Crookshank: Tuberculosis and Actinomycosis (Examination of Sputum).
CLINICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Mayo Robson: A case of Ulcerative Colitis treated by Inguinal Colotomy and Treatment of the Ulcerated Surfaces, with subsequent Closure of the Artificial Anus.—Dr. C. H. Gage-Brown: A case of Fatal Asphyxia following Self-administration of Nitrous Oxide Gas.—Dr. Francis Hawkins: Two cases of Chronic Albuminuria, one of twenty-five years' and the other of forty-three years' duration.—Dr. Hadden: Thermostomia, a term suggested for a sensation of Heat in the Mouth. 9.30 P.M., Annual Meeting: Report of Council; Election of Officers.

Saturday, May 27.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. H. Corner: Puerperal and Lactational Insanity.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.
Lectures, original articles, and reports should be written on one side only of the paper.
Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.
We cannot prescribe or recommend practitioners.
Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."
Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*
We cannot undertake to return MSS. not used.

"OUR NEW DOCTOR."

A SLIP from a Somerset paper is before us in which "our new doctor" is described in a paragraph which must make him blush. "He will be welcomed home with a pocket full of diplomas." "He has been elected a Licentiate of the Royal College of Physicians of London, a Member of the Royal College of Surgeons of England and a Licentiate of the Society of Apothecaries of London. We are glad to record these brilliant results &c.," including an account of various prizes and other successes which are generally allowed to tell their own tale in the greater competition of life and common work. Any "new doctor" is to be pitied who has friends so indiscreet as to write such paragraphs as this, and the more emphatically he can prohibit them from further efforts in this direction the more will he consult his own reputation as a man of taste.

Inquirer.—Pathology: Coats, Ziegler. Hygiene: L. Parkes, Whitelegge. Lunacy: Articles in Tuke's Dictionary of Psychological Medicine. Diseases of Eye: Nettleship. Skin: Crocker. Throat: Mackenzie.

THE BOND OF UNQUALIFIED ASSISTANTS.

To the Editors of THE LANCET.

SIRS,—Can a medical practitioner hold an assistant to a bond (involving a penalty of £1000) not to start practice within a given number of miles after he (the assistant) is qualified, the bond having been entered into whilst he was unqualified? A reply in your next issue will much oblige. I am, Sirs, yours truly,

Stirling-road, Glasgow, May 8th, 1893. J. COUTTS, L.F.P.S. Glas.

*** The answer to our correspondent's query must, we think, be in the affirmative.—ED. L.

A QUESTION OF FEE.

Enquirens.—The case is one where the payment of the consultation fee should not be pressed. Our correspondent's neighbour is doubtless neighbourly enough to forego his honorary claim under the circumstances, which should be explained.

Miss C. J. Wood is thanked, but we do not propose to proceed further in the matter.

"DANGEROUS EXHIBITIONS."

IN connexion with some remarks which we published (*vide* THE LANCET, May 6th, p. 1079) under the above heading, Mr. Hadyn Brown, surgeon to the Hospital of St. Peter's Port, Guernsey, favours us with an illustration of the folly and the danger of inserting, with unskilled hands, instruments for the removal of obstructions from any of the natural passages. The incident is not quite parallel with the circumstance which formed the text of the annotation alluded to above, but is, nevertheless, not devoid of interest. It appears that a patient residing in a country district, suffering from retention of urine, sent for his medical attendant, who lived several miles away. This gentleman, not being able promptly to answer the call, sent by the messenger a silver catheter, with instructions to the patient—who was a retired officer in the army—that it was to be used by him in the best way he could. The *dénouement* may be imagined, but is difficult to describe. It would appear that the patient took out the stilet from the catheter and proceeded to pass the wire into the urethra. After many unsuccessful attempts to insert it he gave it up in despair owing to the intolerable agony. The patient had taken the stilet to be the instrument which he had been told to pass, looking upon the actual catheter as the case for holding it!

Dr. John M. Macrae.—The only institution available as a permanent home is, we think, the Hospital for Incurables.

Mr. K. F. Hammond (Liverpool) should apply for the information to the Home Office.

COLONIAL ETHICS.

To the Editors of THE LANCET.

SIRS,—I have just returned from a trip to Australia and New Zealand. I was not favourably impressed with the medical ethics of our colonial brethren. In one town in New Zealand the following inscription upon a large brass doorplate attracted my attention:—"—— ——, M.B., C.M., Nose, Ear, Throat and Ophthalmic Surgeon." This "specialist" is, I was informed, largely patronised by a portion of the medical practitioners of the town. I was also shown newspapers containing long paid advertisements and stating that the advertiser was ophthalmic surgeon to such and such a hospital &c., hours of consultation &c. There was at the time in the town a medical man who had large experience as an ophthalmic surgeon and was very successful. He, however, did not advertise and did not display the large doorplate with the above most offensive inscription upon it. I should like to know if this is not quackery and the opinion of THE LANCET not only upon the inscription on the doorplate but also as to the ethics of the general practitioners of the town in patronising such a man to the detriment of the decently-behaved practitioner.—I am, Sirs, yours truly,

May 12th, 1893. MEDICAL ETHICS.

THE CONSUMPTION OF "GANJA" IN INDIA.

IN a paper read by Brigade-Surgeon Pringle, M.D., before the East India Association on April 20th last he spoke of the duty of the State to ascertain, as far as possible, through its medical officers of health, the chief agencies at work in the production of unsoundness of mind. He said the subject was at present engaging the serious attention of the authorities in this country, owing to the alarming increase of insanity amongst its population. In India, again, the increasing extent of mental disarrangement was awakening great public concern. A prominent cause of this grievous state of things was, said Dr. Pringle, the large consumption of "ganja," since official documents showed that fifty-three per cent. of the admissions into the lunatic asylums of Bengal were clearly due to the excessive indulgence in the use of that drug. He called upon the Indian Government to more distinctly recognise the importance of limiting the consumption of ganja by preventing its illicit production and sale. He moreover stated that there was grave reason to fear that the terrible effects of indulgence in country spirits amongst Europeans and the disastrous results frequently seen amongst the natives of India were due now not to the presence of the fusel oil so much as to the addition of ganja to the purer liquor from the "sudder" distilleries, with the view of hastening the process and increasing the intensity of mad intoxication. The paper closed with the suggestion that something should be done at once to make the restrictions enforced by law in England applicable also to India with reference to dangerous drugs and to remove from the poor natives of our Eastern dependency the facilities at present existing for procuring the above-named demoralising drug.

THE BRISTOL MEDICO-CHIRURGICAL SOCIETY.

THE work of a medical society cannot be satisfactorily carried on without the aid of a good library. We understand that the members of the above-named Society are strenuously endeavouring to repair a defect which they feel exists amongst them in this regard. Any aid in this direction would no doubt be thankfully accepted on behalf of the Society by the honorary librarian, Mr. L. M. Griffiths, 28, Berkeley-square, Bristol.

ANOTHER INSULT TO THE PROFESSION.

WE regret to say that the practice by which tradesmen and others attempt to encourage members of the medical profession to further their interests by recommendations to patients is becoming more common. In our issue of May 6th we noticed a generous (?) offer to those medical men who gave their patronage of 20 per cent. of all gross cash proceeds that came through their recommendation. A second remarkable proposal has been forwarded to us by another correspondent. We need hardly say that the communication is marked "private and confidential," but nevertheless we have no hesitation in submitting it to our readers:—

> "In order to give a further impetus to the sale of —— I have decided to allow, to the members of your profession only, the equivalent in wine &c. in my general list (enclosed) of six shillings for every dozen of —— sold through their recommendation. Thus an order for, say, three dozen —— entitles the party recommending it to select wine &c. from my list to the extent of eighteen shillings. This (the full) reserve can only be allowed in cases where orders are received direct from persons whose names have been communicated to me and I can thus identify the recommendation. For this purpose forms, as enclosed, are provided, and each correspondent has a distinguishing number for reference. Further, I may say that I can allow half the reserve mentioned—viz., three shillings per dozen—on orders received through a local agent should it be more convenient for you to appoint one in your district; orders in this case to come direct to me from the local agent, who may be a chemist, a grocer, or wine merchant. If preferred, the reserve could be devoted, as a gift, to any person or institution you might indicate."

J. W. S.—The "Liber Fundamentorum Pharmacologiæ" (Pharmacological Principles) of Abu Mansur Muwaffak bin Ali Harawi has been for the first time translated from the original text and illustrated by running comments by Abdul-Chalig Achundow, practising physician at Baku. The translation is into German and forms part of the "Historische Studien" issued by the Pharmacological Institute of the University of Dorpat, under the editorship of Professor R. Kobert, M.D. According to this authority Indian medicine divides all things into four grades. Those of the first grade are aliments; those of the second grade are aliments supplemented by medicaments; those of the third grade are medicaments only, and those of the fourth grade are poisons.

Ignoramus.—St. Thomas's Home, Guy's Hospital and University College Hospital.

POLICE-COURT FEES.

To the Editors of THE LANCET.

SIRS,—Be good enough to inform me on the following point: I attended at the police court in a case where a husband assaulted his wife shortly after confinement. To whom have I to look for the payment of the fees where the police prosecute and a conviction is obtained? The account was rendered to the clerk to the magistrates, who forwarded it to the Superintendent of Police, but the latter disclaims any liability.—I am, Sirs, yours truly,

May 14th, 1893. APPETITUS RATIONI PAREAT.

*** From what our correspondent writes it appears to us that the police prosecuted as a part of their duty and that therefore he cannot claim any remuneration from them. He is clearly entitled to the usual court fees—half a guinea if under two miles.—ED. L.

ERRATA.—Two errors of the press occurred in Dr. Murray's paper on Myxœdema and Cretinism, published in our last issue. In the last line but one from the bottom of the second column, p. 1130, "weeks" should read *cases*, and in line 24, first col., p. 1132, "skin" should read *chin*.—In Mr. Jack's letter, pulished last week, p. 1179, the name of the drug mentioned in the heading of the communication was inadvertently misspelt. It should have been "kresoline." In the body of the letter also a similar error occurred in the spelling of the name.—In our issue of May 6th, p. 1109, under the heading of "The Medical Profession in France," the number of medical men given for England, including really the whole number registered, was 39,590. It should have been 30,590.

During the week marked copies of the following newspapers have been received:—*Rangoon Gazette, Leith Burghs Pilot, Cromer Post, Scarborough Post, Forum (New York), Ripley Advertiser, Montevideo Times, Morning Post, Health, Manchester Examiner, Bradford Observer, Liverpool Courier, Rochdale Observer, Wolverhampton Chronicle, North British Daily Mail, Glasgow Herald, Bolton Herald, City Press, Leeds Mercury, Yorkshire Post, Bristol Mercury, Liverpool Daily Post, Reading Mercury, Food and Sanitation Journal, Hertfordshire Mercury, Mining Journal, Weekly Free Press and Aberdeen Herald, Local Government Chronicle, Guy's Hospital Gazette, Surrey Advertiser, Local Government Journal, Public Opinion, Le Temps (Paris), Times of India, Pioneer Mail, Scotsman, Dover Express, Kelso Mail, Berwickshire News, Architect, Builder, Sunday Times, Scottish Leader, Henley Standard, West Middlesex Standard, Medical Record (New York), Northern Whig (Belfast), Sanitary Record, Burnley Express, Citizen, Liverpool Echo.*

Communications, Letters &c. have been received from—

A.—Alpha; Aptus, London; A. H., London; A. R. P

B.—Dr. Adolph Bronner, Bradford; Dr. R. H. Bakewell, Auckland; Mr. H. W. Brown, Leeds; Mr. C. Birchall, Liverpool; Messrs. Brown, Gould and Co., London; Beta, London; *Birmingham Daily Post*, Proprietors of; B., London.

C.—Dr. F. G. Clemow, London; Dr. C. E. Counsellor, Nevada; Mr. Watson Cheyne, London; Mr. H. S. Collier, London; Mr. T. R. Collins, Harrogate; Mr. T. Cooke, London; Dr. M. O. Coleman, Surbiton; Mr. A. Cording, Maidstone; Messrs. Carnrick and Co., London; Messrs. Crossley, Moir and Co., London; Caxton Convalescent Home, Secretary of; Coventry and Warwickshire Hospital, Secretary of; Central London Throat and Ear Hospital, Secretary of.

D.—Dr. Henry Davy, Exeter; Deputy.

F.—Dr. Riversdale French, Brighton

G.—Dr. Gunn, Widdrington; Mr. Wm Glanfield, Folkestone; Mr. Ed. Gaylor, Belper; Mr. S. Grubb, London; Messrs Chas. Griffin and Co., London; Gardening and Forestry Exhibition, London, Manager of.

H.—Mr. George Heaton, Birmingham; Dr. A. H. Hassall, San Remo; Mr. H. R. Hatherley, Nottingham; Mr. T. Garrett Horder, Cardiff; Mr. T. H Holding, London; Mr. Charles Hailes, Bucks; Mr. J. Hoystead, Preston; Mr. T. M. Houghton, London; Mr. P. H. Hunter, Edinburgh; Messrs. Hughes and Lancaster; Messrs. Hirschwald, Berlin; House Surgeon.

I.—Dr. Robt. N. Ingle, Jersey; Iota, London; Ings Home Nursing Institute, London.

J.—Mr. J. R. Johnson, Liverpool.

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N.—Mr. H. Nash, Bournemouth; Nottingham General Hospital, Secretary of.

P.—Dr M. S. Pembrey, Oxford; Dr. T. F. Pedley, Rangoon; Mr. Henry Pilkington, Ormskirk; Messrs. Peese, Son and Co., Darlington; Messrs. Potter and Sacker, London; Messrs. Potter and Clarke, London; Partner, London.

R.—Dr. R. W. Richards, Dolgellan; Prof. C. Ruata, Italy; Mr. R. Redpath, Newcastle-on-Tyne; Royal Victoria Hospital, Bournemouth, Secretary of; Rawthorn, Preston.

S.—Dr. W. R. Smith, London; Dr. G. A. van Someren, Orange; Dr. A. E. Sterne, Indianopolis; Mr. Simeon Snell, Sheffield; Surgeon-Captain R. R. Sleman, London; Mr. W. C. F. Smith, Halifax; Mr. Wm. Shepperd, London; Mr. H. Sell, London; Mr. A. Shrubshall, London; Messrs. G. Street and Co., London; Messrs. Salamon and Co., Rainham; Smithsonian Institution, U.S.A.; Sunderland Infirmary, Secretary of.

T.—Dr. J. H. Thompson, Rome; Mr. J. Tweedy, London; Mr. A. Tournet, London; Town Clerk, Douglas, Isle of Man; Translator, Manchester.

U.—University College, London; Secretary of.

V.—Mr. J. W. Vickers, London.

W.—Dr. G. B. M. White, London, Dr. C. T. Williams, London; Mr. C. Y. Wood, London; Mr. John Wallace, Bombay; Mr. A. E. J. Ward, Cork; Mr. J. Ryland Whitaker, Edinburgh; Mr. A. Wood, Beddington; Mr. G. M. White, Longton; Messrs. T. Wall and Sons, Wigan; Messrs. Wright, Dain, Peyton and Co., Birmingham; Messrs. H. Wilson and Son, London; Messrs. Whitworth and Stuart, Manchester; Messrs. White, Druce and Brown, London; Wire Wove Waterproof Roofing Co., London, Manager of; Wolverhampton General Hospital, Secretary of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. R. E. Archer, Cadoxton; A. J. T., Norwich; A. B., Hull; A. C. D., London; A. M., Weston-super-Mare.

B.—Mr. E. Blatchley, London; Mr. E. H. Barry, Chatham; Mr. A. J. Bulger, Ettingshall; Mr. R. H. Brockelbank, London; Mr. H. Birkenhead, Aysgarth; B., Bradford; Bristol Royal Infirmary, Secretary of; Beta, London.

C.—Dr. S. M. Copeman, London; C. W., London; C. C. L., London; C.R.P., London; Corinth, London

D.—Dr. A. H. C. De Silva, Newcastle-on-Tyne; Dr. J. Davis, London; Mr. T. B. Dunn, Crowthorne; Mr. M. S. Dowdeswell, Handsworth; Mr. J. T. Davenport, London; Deaconess, Farnham; Dispensary, London.

E.—Dr. W. R Evans, Llanberis; Mr. J. W. Emmet, South Petherton; E. C., London; Experience, London.

F.—Mr. I. J. Flynn, Dublin; Felix, London; F. A., London; Fides, London; Faircote, Pocklington.

G.—Dr. G. W. Grote, London; Dr R. Griffith, Worcester; Dr. A. H. Griffith, Manchester; Mr. C. H. Gilbert, Coggeshall; Mr. J. Gibson, Bickley; Ganglion, London; Guy's, London.

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I.—Ixion, London.

J.—Mr. B. F. Jackson, London; J. B. H., London; Jynd, London.

K.—Mr. T. S. Keys, Gorseinon; Messrs. Kilner Bros., London; K., Bolton.

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N.—Mrs. Neale, Liverpool; North, London; Nurse, London.

O.—Mr. T. J. Owen, St. David's; Messrs. Oliver and Boyd, Edinburgh.

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R.—Dr. J. M. Robertson, London; Mr. E. A. Rogers, Weston-super-Mare; Mr. J. W. Roberts, Gravesend; Mr. C. B. Rossiter, Amlwch; Messrs. J. Robbins & Co., London.

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T.—Mr. J. Thin, Edinburgh; Mrs. Tyte, Pangbourne; Trinity, London.

W.—Dr. J. W. Watterson, Morecambe; Mr. E. S. Warburton Treherbert; Mr. B. Wheeler Manchester; Mr. H. West, La Rocque, Jersey; Messrs Wyman and Westwood, London; Messrs. Watkins and Osmond, London.

X.—X. Y., London.

Y.—Y. X., London.

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Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 66, Rue Caumartin, Paris.

[The continuation of the Report of the Chloroform Commission will be found on the next page.]

REPORT OF THE LANCET COMMISSION

APPOINTED TO INVESTIGATE THE SUBJECT OF THE

ADMINISTRATION OF CHLOROFORM

AND OTHER ANÆSTHETICS

FROM A CLINICAL STANDPOINT.

REPORTS OF UNTOWARD CASES FROM PRIVATE PRACTITIONERS IN REPLY TO THE LANCET INQUIRY.

Owing to the way in which these reports were drawn up it has been found impossible to keep them uniform with the other cases. With a view to present them in the most striking and clear way, they have been arranged with regard to the nature of the operation performed, or about to be performed, at the time of the inhalation of the chloroform.

1.—Male, aged 35. For ruptured gall bladder. Chloroform given in Skinner's frame. Respiration failed first. Failing pulse was the first symptom which elicited notice. Inversion was successfully practised. Shock was believed to be the immediate cause of the collapse.

2.—Male, aged 40. ? Limb. Chloroform given in Skinner's frame. Respiration failed first. Failing pulse first symptom noticed. Inversion practised. Shock was believed to be the immediate cause of the collapse.

3.—Male. ? Limb. Chloroform given on folded lint. Respiration failed first; respiration ceased suddenly. Inversion; artificial respiration (Howard's method); cold affusion with ammonia carb. cautiously applied to nostrils. Not particularly feeble.

4.—Female, aged 54. For cancer (20 minutes). Chloroform given on folded lint. Respiration failed before weakening of pulse. Head lowered, jaw pushed forward; artificial respiration; subcutaneous injection of ether. Fat and short-winded; ? probably fatty heart.

5.—Female, aged 50. Scirrhus (15 minutes). Chloroform given on folded lint. Respiration failed before weakening of pulse. Head lowered, jaw pushed forward; artificial respiration; subcutaneous injection of ether. Suffering from chronic bronchitis.

6.—Female, aged 40. Scirrhus (7 minutes). Skinner's frame used. Respiration failed first. Heart very feeble. Inversion. Spare; dorsal posture.

7.—? Male. Removal of tumour. Steven's inhaler used. Respiration and pulse failed nearly together. Inversion, &c.

8.—Male, 7 months. Respiration failed first. Respiration ceased after 4 minutes; resuscitation difficult.

9.—Male, aged 2. Duration 2 minutes. On towel. Respiration failed first. Artificial respiration.

10.—Male, aged 25. Little finger (10 minutes). Cone, with lint in it. Respiration failed first. Breathing ceased; pulse continued. Artificial respiration successful after 15 minutes. Healthy.

11.—Aged 6. Not stated which joint. Methylated chloroform on napkin. Respiration failed first. Stertor, lividity, failing respiration; artificial respiration.

12.—Male, aged 20. Cataract. Chloroform on napkin. Respiration failed first. Stertorous breathing; lividity; failing respiration. Artificial respiration; battery (20 minutes).

13.—Male, aged 10. Tenotomy for strabismus (5 minutes). Given on lint. Respiration failed first, ceasing on section of tendon. Artificial respiration. Heart and lungs were healthy.

14.—Male, aged 31. Leg. Given on lint. Respiration failed first. Much struggling, patient became cyanosed, breathing rapid and stertorous, pulse just perceptible. Artificial respiration; faradic battery; hypodermic injections of ether and brandy. Had delirium tremens. Heavy drinker with hepatic enlargement; no evidence of cardiac disease.

15.—Male, aged 38. Catheterism. Given on lint. Respiration failed first. Much struggling: patient became cyanosed, breathing rapid and stertorous. Pulse just perceptible. Artificial respiration; faradic battery; hypodermic injections of ether and brandy. Had delirium tremens; had wounds on face so that Clover's facepiece could not be used. Heavy drinker with hepatic enlargement; no evidence of cardiac disease.

16.—Male, middle-aged. Forcible catheterism (a few seconds). Skinner's inhaler used. Respiration failed first. No particulars given about measures of resuscitation employed. An intemperate seafaring man with almost complete urethral stricture. Death probably due to effects of chloroform and uræmic poisoning. (See Deaths, Series C, Hospitals No. 10, p. 977.)

17.—Male. Cystotomy for cystitis. Chloroform given (small towel). No particulars are given as to the symptoms which gave rise to fear, but it is expressly stated that they were the result of the anæsthetic having been given in an injudicious manner by a timid chloroformist. Lowering head; opening window; a few slaps on head with wet towel: successful.

18.—Male. Lithotomy. Respiration, which failed first, ceased suddenly. Inversion; artificial respiration (Howard's method), cold affusion with ammon. carb. cautiously applied to nostrils. Not particularly feeble.

19.—Male, aged 18. Lateral lithotomy (10 minutes). Given on folded lint. Respiration failed first. Tetanic spasms, which affected respiration. Silvester's method of artificial respiration. Weak and emaciated. Occurred twice in same patient, once in 1888 and again in 1890.

20.—Lateral lithotomy. Junker's inhaler used. Respiration failed first. Silvester's method of artificial respiration, with pressure under angles of lower jaw to keep tongue clear. Patient recovered without any bad symptom.

21.—Male, aged 6. Sounding for stone (10 minutes). Chloroform (towel). Respiration probably failed first. Artificial respiration; electricity to vagus; respiration restored in ½ hour.

22.—Male, aged 5½. For phimosis. Skinner's mask used. Respiration failed first. Artificial respiration for 3 minutes.

23.—Female, aged 31. Dilatation of cervical canal (10 minutes). Given on a handkerchief. Respiration failed first. Artificial respiration.

24.—Female, aged 45. Fibroma of uterus. Chloroform (Skinner's frame). Respiration failed first. Inversion. Heart very weak; spare woman.

25.—Children. Exploratory examination of hip disease. Chloroform (lint). Respiration failed first. Artificial respiration and inhalation of ammonia.

26.—Excision of epithelial cancer of lip. Junker's inhaler used. Respiration failed first. Silvester's method of artificial respiration, with pressure under angles of lower jaw to keep tongue forward. Patient recovered without any bad symptom.

27.—Removal of large tumour from jaw. Respiration, which failed first, ceased suddenly. Inversion; artificial respiration (Howard's method); cold affusion with ammonia carbonate cautiously applied to nostrils. The patient was not particularly feeble.

28.—Removal of tumour from jaw. Respiration failed first. Ceased breathing suddenly. Chest wall very rigid and seemed to crack on pressure. Inversion; artificial respiration (Howard's method); cold affusion with ammonia carbonate cautiously applied to nostrils. Not strong; had had sloughing tumour of upper jaw.

29.—Male, aged 10. For pus in joint. Skinner's frame used. Respiration failed first, but no particulars given as to means adopted for resuscitation.

30.—Opening knee-joint for acute suppuration. Chloroform given on towel. Pulse failed first and stopped suddenly. Inversion; hypodermic of ether; subsequently artificial respiration, which was successful. The patient was an epileptic.

31.—Male, aged 52. External iliac. Chloroform given on lint. Became livid, apparently from dropping back of tongue, and lower jaw could not be elevated owing to scar tissue. Tongue forcibly pulled out by forceps, and so held. A.C.E. mixture substituted.

32.—Male, aged 2½. Talipes equinovarus. Given on lint. Pulse and respiration failed together. Breathing suddenly stopped; extreme pallor; pulse imperceptible. Artificial respiration; battery (faradic), one pole to phrenic on neck and other over cardiac area. Breathing not established till after 30 minutes. Patient had extreme cleft palate.

33.—Male. Foot torn off by machinery. Steven's inhaler used. Collapse. When dangerous symptoms occurred, A.C.E. mixture substituted with benefit. The accident caused severe hæmorrhage, which determined patient's death same evening.

34.—Male, aged 20. Removal of enlarged and ulcerated scrofulous glands (10 minutes). Junker's inhaler used. Respiration failed first. Silvester's method of artificial respiration. Patient quite well in 1 hour. Weakly.

35.—Female, aged 42. Removal of dead fœtus (2 minutes). Chloroform (Skinner's frame). Respiration failed first. Inversion successfully practised. Lateral posture. Patient fat, with granular kidneys.

36.—Male, aged 25. For hæmorrhoids (5 minutes). Chloroform given on lint. Respiration failed first; heart continued active. Cold affusion to face and chest; artificial respiration. Patient was difficult to bring under influence of chloroform. A strong man of full habit.

37.—Adult. Extraction. Chloroform given in a cone-shaped towel. Pulse failed first. Pulse became weak after 2 or 3 minutes' use of anæsthetic. Reclining posture.

38.—Female. For tumour. Chloroform (handkerchief). Pulse failed first. Artificial respiration.

39–44.—For tumour. Chloroform (handkerchief). Pulse failed first. Artificial respiration.

45.—Removal of fatty tumour. Chloroform. Respiration failed first. Inversion.

46.—No particulars. Dorsal posture.

47–48.—Infants. Chloroform given on handkerchief. Pulse failed first.

49.—Children between 9 and 12. On handkerchief. Pulse failed first. Artificial respiration.

50.—Children. Chloroform on towel. Respiration failed first. Inversion; cold affusion.

51.—No particulars given. No very serious cases.

52.—On lint. No particulars given. No very serious cases.

53.—Chloroform; Junker's inhaler and lint used. No serious cases.

54.—Chloroform (lint). Respiration probably failed first. The reporter of this case had several dangerous cases. Speaks highly of the effect of nitrite of amyl, and suggests restarting respiration by lifting patient from recumbent or sitting posture. He thinks in all these cases respiration failed first.

55.—Male, aged 25. Chloroform (mask of lint). Respiration failed first. Artificial respiration; easy recovery.

56.—Children. Chloroform (mask of lint). Respiration failed first. Artificial respiration; easy recovery.

57.—Children. Chloroform. Several cases caused anxiety. Artificial respiration always restored animation.

58.—Chloroform (towel over frame). Pulse probably failed first. Syncope. Artificial respiration; pulling forward tongue; lowering head, and raising arms and feet, successful in every case.

59–62.—Chloroform (small towel). Cessation of administration of chloroform. Artificial respiration.

DEATHS FROM ETHER.—PART II.

THE same course was pursued in studying this agent as in the case of chloroform, and the following statistics are presented. As we propose later on to compare the anæsthetics with each other, we need not add to what we said in introducing the report with the statistics concerning chloroform.

INFLUENCE OF SEX AND AGE.

The mortality is slightly against the males, a fact explicable, as in the case of chloroform, by the greater liability to accident, and so to operation in the case of males. But few deaths under ether are reported before the age of 40 and after the age of 60. The number of deaths before adult life and after middle life will be influenced by the frequency with which chloroform is selected in place of ether for these epochs of life. However, deaths are reported as early as at 6 years and as late as at 84.

From the statistics we learn that 30 males died under ether between the ages of 6 and 84, to 25 females between the ages of 6 and 74; that most deaths took place between 45 to 50, and this applies to both sexes; that nearly ⅔ths of the female deaths occurred between the ages of 40 and 50; that nearly half of the male deaths occurred between 45 and 55. It is curious that, taking deaths at all ages, we find that the average age at death under ether for the male is 46, and for the female 40.

FAILURE OF RESPIRATION AND OF THE CIRCULATION.

The importance of the point as to which fails first—respiration or circulation—has already been insisted upon, and in the present section we shall consider the question as regards ether. We have a record of 19 deaths under ether when the pulse failed first; 22 when the respiration failed first; and 10 cases are given in which the circulation and respiration appear to have ceased simultaneously.

GEOGRAPHICAL DISTRIBUTION.

Without giving in detail a list of places from which records have reached us of fatalities under ether, it may be broadly stated that, while largely used in England, Ireland, and in the United States, but few cases have been reported from Scotland, the Continent, or from the Tropics. Ether, from its extremely volatile nature, is not employed to any extent in hot climates. At the close of our report we shall have occasion to draw attention to statistics bearing upon the question of the comparative frequency of the use of the various anæsthetics, which have an important bearing upon the geographical area of fatalities under anæsthetics.

CAUSES ASSIGNED FOR DEATH.

The cause assigned as the immediate or cognate factor in producing the accident is next to be considered. In order to do this it has been thought advisable, as in the case of chloroform, to give, as far as space allows it, the actual words used by the narrators of the cases under the headings of the leading symptoms which they gave. In some instances the reporter states his belief that the fatality resulted directly from the careless manner in which the ether was given.

Anæsthesia (imperfect).—Shock. Eclampsia in epileptic.

Asthenia.—The patient was *in extremis*, and on being moved, took one or two inhalations of ether and died.

Asphyxia.—From blood entering windpipe. Hernia with vomiting. With incomplete anæsthesia. From respiratory spasm. From shock.

Bronchorrhœa, acute, due to impeded pulmonary circulation.

Cerebral conditions.—Ether acting on senile degenerate arteries of brain. Nervous exhaustion following stimulation.

Collapse.—Intestinal obstruction. From shock. Three days' strangulated hernia.

Embolism.—Cerebral.

Emphysema and Bronchitis.

Ether.—Impure ether used (that meant for local anæsthesia only).

Exhaustion.—Bad case of blood-poisoning. Long-standing strangulated hernia.

Heart failure.

Heart and respiration, failure of, following severe struggling.

"Kidney disease."

Lungs, congestion of.

"Paralysis of heart."

Pneumonia.—Following the exhibition of ether. Bronchitis and renal complications.

Respiration, failure of.—Laryngeal diphtheria. In a case in which the operation was severe, and the death was said to be "probably only partially due to ether." From interference with action of diaphragm due to distended bowel, or from asthenia from abdominal distension, or from mixing of brandy and ether increasing narcotising effect of latter.

Shock.—In case of operation for hernia. In case of death said to be "due not to ether."

Suffocation—from blood entering windpipe during operation on tongue.

Syncope.—Following hæmorrhage. From general debility (phthisical). From general debility (weakly strumous person). Hernia. Incomplete anæsthesia. Kind of "syncope" (emphysema).

? Syncope or Shock (severe smash).

Uræmia.

THE NATURE OF THE OPERATION.

We next pass to the operations which were in progress, or had just been completed, when the death occurred. The same classification has been adopted as that employed in dealing with chloroform.

Amputation.—At ankle, 1; of fingers, 1; of leg, 1; through thigh, 1.
Abdomen (operations about).—Lumbar colotomy, 2; for strangulated hernia, 9; for peritonitis, 1; for obstruction, 2.
Abscess.—Opening abscess in left leg, 1; opening abscess in neck, 1; puncturing pelvic abscess, 1; abscess in thigh, 1.
Arteries (operations on).—Wound of, 1.
Bone (removal of).—For necrosis, 1.
Breast (operation on), 1.
Chest (operations about).—For empyema, 3; for pleuritic effusion, 1.
Dislocations (reduction of).—Shoulder, 1.
Eye (operations about).—Cataract, 1; opacity of cornea, 2; iridectomy, 1.
Fingers (operations on).—Middle finger of right hand, 1.
Foot (operations on).—Correcting deformity of foot, 1.
Fractures (reduction of).—Position of fracture not stated, 2.
Genito-Urinary Tract (operations about).—Relief of over-distended bladder, 1; sounding for calculus, 1; removal of urethral polypus, 1; rupture of urethra, 1.
Gynæcological Operations.—Incision of os uteri for dysmenorrhœa, 1; operation on fibrous tumour of uterus, 1; puncture of uterine fibroid, 1; removal of fibroid polypus uteri, 1; removal of intra-uterine fibroid, 1.
Hip (operations about).—Injury to hip, 1; fibrous ankylosis, 1.
Jaws (operations about).—On cancerous gland under jaw, 1; excision of superior maxilla, 1; removal of part of upper jaw-bone for caries, 1; removal of tumour of lower jaw, 1; removal of upper maxillary bone, 1.
[See also Mouth and Throat Operations].
Joints (excision of).—Knee-joint, 1.
Mouth and Throat Operations.—Excision of tonsil, 1; removal of teeth for cancerous growth in gums and throat, 1; small operation in mouth, 1; ? on throat, 1.
[See also Operations on Tongue.]
Neck (operations on).—Bronchocele, 1.
Perineorrhaphy.
Rectum (operations about).—Piles, 1.
Teeth (extraction of), 3.
Tongue (operations on).—Removal of part of tongue for cancer, 1.
Tracheotomy, for diphtheria, 1.
Tumours (removal of).—Axillary tumour, 1; large tumour on chest, 1; sebaceous cystic tumours on head, 1; tumours on neck, 1; tumours in side, 1.

MORE THAN ONE OPERATION UNDERTAKEN AT THE SAME TIME.

For abscess of right thigh with necrosis of femur, 1; extraction of four teeth and removal of upper jawbone for caries, 1; removal of urethral polypus and two sebaceous cystic tumours on head, 1.

SMASHES (OPERATIONS FOR).

For crushing of right hand, compound fracture of fore-arm, simple fracture of humerus and fracture of third rib, 1.

EXAMINATIONS.

In case of diseased hip-joint, 1; in case of strangulated hernia, 1.
Operation not begun when death took place, 4.

METHOD OF ADMINISTRATION.

The methods resorted to were;

I. Without an inhaler; 7 cases. (*a*) on a handkerchief; (*b*) on a sponge; placed in a cone extemporised by folding a towel; placed in a bladder. (*c*) In a cone; in an extemporised cone made with a roll of lint covered with oil silk.

II. With an inhaler; 11 cases. Squibb's inhaler. Allis' inhaler. Clover's larger inhaler. Clover's smaller inhaler. Ormsby's inhaler. Inhaler, "cage."

III. Etherisation per rectum (a small bottle used).

The use of an inhaler in the administration of ether is practically universal, the cone, whether formally constructed or extemporised, being very commonly employed in the United States, and Clover's or Ormsby's inhalers being most commonly had resort to in the United Kingdom when ether is employed. It is important to emphasise this fact, because whereas in the case of chloroform very many persons regard the use of an inhaler as less safe than that of a folded towel or linen cap, and others deprecate the employment of anything except an inhaler, in the case of ether there is a consensus of opinion that that anæsthetic can only be satisfactorily administered when some apparatus, whether a single cone or something more complex is employed.

MEASURES USED FOR RESUSCITATION.

The measures adopted for resuscitation from ether toxæmia are very various, and for convenience have been arranged under separate heads and in alphabetical order. It should be understood in each case various measures were employed, so that the frequency of their employment cannot be accepted as proving whether any particular restorative measures were more valuable than others.

Air, admission of, 1.
Artificial respiration.—No method particularised, 20; Silvester's method, 4.
Catheter passed down trachea after the performance of tracheotomy and then artificial respiration, 1.
Counter-irritation.—Mustard to calves of legs, 1.
Electricity.—"Battery," method not specified, 3; faradism, 1; galvanism, 7.
Inversion.—Partial, 4; Nélaton's method of complete inversion, 1.
Laryngotomy, 2.
Stimulants.—No kind particularised, 3.
External.—Cold affusions, 2; rubbing with brandy, 1; slapping with wet towel, 2.
Hypodermic.—Solution of ammonia, 2; solution of ammonia injected into jugular vein, 1; brandy, 4; brandy and water, 1; digitalis, 1; ether, 2; ether and brandy, 1; nux vomica, 1; sulphate of atropine, 1.
Internal.—Ammonia to nostrils, 1; brandy, 2; brandy per rectum, 1; nitrite of amyl to nostrils, 1; nitrite of amyl and ammonia to nostrils, 1; nitrite of amyl and 3 drops of nitro-glycerine to nostrils, 1; turpentine per rectum, 1; water with vinegar, 1; whisky, 1.
Tongue, drawing forward, 8.
Tracheotomy, 3.
Tube inserted for artificial respiration after performance of tracheotomy, 1.
Measures for resuscitation used but no particulars of them given, 16.
No record of measures for resuscitation, 27.

NECROPSIES IN ETHER TOXÆMIA.

The special points of interest in reviewing the results of necropsies appear to be those revealing evidence of disease which, if it had been known before the administration of the drug, would have induced the use of chloroform or of some other agent instead; whether the morbid conditions accompanying ether-death are frequent enough to point strongly to the discontinuance of its use when the disease is known to exist during life. Naturally the circulatory, the respiratory, and the renal systems offer special claims for careful study. In seventeen cases we note some more or less pronounced cardiac lesion, but as a rule this is found associated with respiratory trouble, and this suggests the probability of the lung disease reacting upon the diseased heart and so giving the *coup de grâce*. Of the twenty-two cases of lung disease noted only seven seem at all acute, while emphysema and old pleuritic adhesions are frequently mentioned. The kidney lesions noted are few, and of these the very large majority, if not all, appear to be the result of a chronic process. In connexion with this association of chronic lung and chronic kidney disease with ether-death, the interesting inquiry arises how far the reduced action of the emulctories prejudices the chances of recovery from the volatile anæsthetics the elimination of which from the blood and the tissues generally must depend upon the activity of the physiological processes of those organs whose function it is to rid the organism of harmful substances. A further point which we may note before passing to the records of the actual cases of the deaths under ether is that in six cases—one female, five males—an anæsthetic had been taken safely on previous occasions. We now append a brief summary of the necropsies of the actual cases.

1.—External covering of fat over the heart. Lungs slightly congested.
2.—Lungs: tubercle in left pleura.
3.—Brain: cyst connected with old hæmorrhagic clot. Granular contracted kidneys; calculus in pelvis of kidney on right side.
4.—Muscular structure of heart flabby. Lungs congested and bright red.
5.—Fat round heart; right auricle collapsed; walls of both ventricles thin; endocardium very red; membrane of aorta red. Clot of blood in trachea.
5.—Brain: hæmorrhage under arachnoid on upper surface of middle portion of left hemisphere; extravasations of vessels of left hemisphere; large clot in right lateral ventricle; corpus striatum and optic thalamus softened and broken down; small hæmorrhage in left lateral ventricle; atheromatous degeneration of vessels at base of brain.
7.—Lungs pale and œdematous. Œdema of membranes of brain.
8.—Feeble, flabby heart with fatty degeneration. Lungs emphysematous.
9.—Bronchial effusion; pulmonary and serous effusion.

10.—Left ventricle of heart slightly contracted. Fæcal staining of œsophagus and larynx. Kidneys slightly granular.
11.—Valvular lesions of heart. Arachnoid membrane of brain thickened; effusion of serum beneath it. Cystic degeneration of kidneys.
12.—Heart slightly fatty: cavities nearly empty. Lungs emphysematous; posterior parts gorged with blood.
13.—Right side of heart dilated, containing post-mortem clots; concentric hypertrophy of left ventricle, which was contracted and contained post-mortem clot.
14.—Heart dilated; slight hypertrophy; little fluid clot. Pleura covering left lung thick. Kidneys granular.
15.—Cancerous deposits in lungs.
16.—Pus in pleura; fistulous communications between bronchi and pleural cavity.
17.—Lungs deeply congested. One kidney slightly fatty.
18.—Small black mass inside pericardium at root of aorta. Right kidney contained a cyst.
19.—Heart fatty; white clot extending from right auricle into pulmonary artery. Cancerous pleuritis.
20.—Decolorised clot in right ventricle of heart; black clot and fluid blood in ventricular cavity. Calibre of trachea somewhat diminished by projection of goitre backwards.
21.—Heart enormously hypertrophied (31 oz.); mitral valve ossified with calcareous plates at base; aortic semi-lunar valves also ossified about base. Left lung œdematous.
22.—Heart flaccid; right ventricle and auricle occupied by soft coagulum; great increase of fat on surface of same and very little muscular tissue; valves slightly thickened; pericardium adherent. Lungs emphysematous and congested. Bronchitis with quantity of mucus in tubes; in lower lobes not much air, in upper parts more œdema. Trachea congested, with frothy secretion.
23.—Fibrinous clot in right ventricle attached to tricuspid valve.
24.—Dense infiltration of entire right lung; lobar pneumonia of right lung in state of bloody engorgement.
25.—Fatty heart.
26.—Pulmonary emphysema; chronic bronchitis. Chronic nephritis.
27.—Lungs collapsed. Long standing and inflammatory disease in brain and medulla oblongata.
28.—Cystic degeneration of kidneys.
29.—Kidneys contracted and granular.
30.—Heart hypertrophied; pericardium everywhere adherent; coronary arteries of small calibre; slight atheroma of aorta; mitral valve stenotic. Lungs: left pleura, few adhesions; right pleura, many adhesions. Kidneys: left atrophied, capsule adherent, markings indistinct, sclerosis above pyramids, pelves filled with fat; right, same; both surrounded with fat.
31.—Heart covered with fat, especially about apex; right side dilated and full of blood; left empty and contracted; walls of right ventricle thin; fatty degeneration. Old adhesions in right pleural cavity.
32.—Wedge of meat had been driven into and become fixed in trachea, occluding both bronchi.
33.—Heart flabby. Lungs much engorged.
34.—Myocardium very fatty; straw-coloured clot in right ventricle and pulmonary artery. Both lungs very emphysematous and the seat of chronic bronchitis.
35.—Trachea greatly narrowed from the pressure of an enlarged thyroid body.
36.—Pneumonia.
37.—Pulmonary œdema.

CASES OF DEATHS OCCURRING UNDER ETHER.

1.—Male, aged 55. In examination of hip-joint after being thrown out of vehicle. Ether given on handkerchief, 4 oz. used. After 10 minutes' inhalation patient vomited twice, then became very weak and perspired profusely. Rallied and ether inhaled for 10 minutes more. Examination of limb undertaken, but the patient seemed conscious and screamed. His lips became purple and his breath panting. Patient was then given water with vinegar, and subsequently whisky, but he drank very little. Seemed choking. Water was then thrown in his face, and powerful means for resuscitating him employed for 20 minutes. Inhalation of ether, but also ascribed to extreme nervous susceptibility. The patient was clearly not completely under the influence of the ether. In this case the method was distinctly a bad one, and the effect of shock upon a diseased system was in no way obviated by the imperfect anæsthesia. Post-mortem: Ilium fractured in several places; heart normal, except for external covering of fat; lungs highly congested. Patient corpulent and a hard drinker.
2.—Male, aged 55. Died instantaneously after inhalation.
3-4.—The recorder of these cases says: "Decided cases of death from inhaling ether."
5.—Female. Respiration failed before the pulse. Voluntary respiration ceased, countenance became livid, pulse rapid; was carried to a window, but at end of 20 minutes was dead.
6-7.—No particulars.
8-15.—No particulars.
16.—No particulars.
17.—Without hæmorrhage, but extreme muscular relaxation, coma, exhaustion, intermittent pulse.
18.—Female, aged 40. Removal of urethral polypus and 2 sebaceous cystic tumours on head. 30 grammes (under 1 oz. of ether used). Anæsthesia incomplete, ether not pushed further, because stage of excitement did not come on, and coldness and slowness of pulse were present. When operation completed, coldness increased, with clammy sweats, convulsions, and foaming at mouth. Attack passed away, but soon returned—more intense. After fourth attack patient died from eclampsia, attributed to etherisation. Had previously been subject to epileptic vertigo.
19.—Female, aged 48. Correcting deformity of foot. Pulse and respiration failed together. Breathing failed, face pale, pulse ceased; revived once, but relapsed and died. Syncope from general debility. Post-mortem: Tubercle in left pleura, spinal cord, and hip-joint. Patient of delicate constitution. Ether employed of more than 62 degrees, contained no foreign substance save 3 per cent. of water.
20.—For excision of superior maxilla. Respiration failed first. Early in operation respiration ceased, and patient died, in spite of all efforts at resuscitation. Death probably only partially influenced by ether.
21.—Male, aged 70. Reduction of fracture. Respiration failed first. Breathing became feeble and irregular; etherisation suspended. In 4 or 5 minutes respiration and pulse became better. Ether re-administered, bad symptoms returned, and pupils became dilated. Heart still beating, but attempts to resuscitate of no avail. Patient suffering from fracture near trochanter of 18 days' duration and from pneumonia.
22.—Male, aged 84. On cancerous gland under jaw. Underwent operation quite satisfactorily, with no failure of pulse, the carotid artery (left side) having been compressed. He went to bed, and never became actually conscious, though was able to leave bed to pass urine; sank into state of coma; was treated with mustard plasters on calves of legs and enema of turpentine. Could not swallow food, and was fed by stomach tube. Had several convulsive seizures. Died 40 hours after operation with cerebral symptoms, but post-mortem revealed no lesion of brain whatever, except cyst connected with old hæmorrhagic clot on right side, whereas the spasmodic seizures he suffered from were on left side of face. Kidneys both granular, right more so; latter small and contracted; in its pelvis a calculus with moulded conical projections on one side. Chest not examined, but no symptoms from heart or lungs. Death probably due to excitement of ether on a senile and degenerate brain. Had taken chloroform very well for similar operation 4 months previously.
23.—Male, old. Respiration failed first. Had undergone operation which lasted about ¾ hour; 5 hours later had violent attack of dyspnœa and died. Weak, but not excessively so.
24.—No particulars given.
25.—Male, aged 16. Slight operation. Amyl hydride and anhydrous ether, 4 dr. ? Pulse failed first. After administration commenced alarming symptoms followed. Galvanic battery and artificial respiration without result; also Nélaton's method of suspension by feet. Syncope. Post-mortem: Organs healthy, except that spleen showed commencing amyloid degeneration. Had taken chloroform for similar operation twice before; first time well; on second occasion alarming symptoms appeared.
26.—Male, aged 51. Removal of part of tongue for cancer. Ether (lint cone covered with oil-silk). Respiration failed first. Face became dusky; pulse still good, but respiration shallow with effort to expel blood. Screw gag (for operation) removed, tongue pulled out, and artificial respiration (Silvester's method). Breathing ceased, though pulse kept beating some minutes. Persistence in restorative measures for ½ hour. Asphyxia; blood escaped into glottis during artificial respiration. Post-mortem: Lungs very inflated, greyish. Fat round heart; right auricle collapsed, containing little frothy blood. No blood in right ventricle; walls of both thin, valves healthy. Ounce of fluid blood in pulmonary artery. Only 2 fluid dr. of blood in the left side of heart; valves healthy. Endocardium extremely red. Aorta contained a little dark blood, its endothelium red. In the trachea was a clot of blood extending from glottis into trachea 4 in. by ¼ in. in dimension. Thin and slightly pallid; otherwise looked healthy. This is a case which perhaps belongs more to the class of remote deaths, as the asphyxia, which was the cause of death, was directly due to hæmorrhage.

27.—Male, aged 69. For strangulated hernia of 3 days' standing. (Clover's inhaler) 2 dr. used. Pulse failed first. Respiration continued for short time; pulse became weaker, and finally stopped. Silvester's artificial respiration and other methods tried, but failed. Collapse from shock.

28.—Female, elderly. Removal of axillary tumour (about 40 minutes). ½ oz. used. Pulse failed first. Pulse in radial and temporal arteries ceased. Hypodermic injections of brandy and water given. Patient revived, and operation proceeded with. No more ether given. Patient vomited, sank, and did not recover. Head was lowered, and 4 oz. brandy and water given hypodermically, also spirits of ammonia (1 dr.). Collapse from shock.

29.—Female, aged 48. Removal of cancer of breast. Pulse failed first. After a few inhalations patient's face suddenly became turgid, and hands white. Inhaler removed, tongue brought forward; cold water dashed over face and chest; rubbed with brandy; but breathing more stertorous; face more congested; pulse failed; effort at vomiting; death. Emphysematous state of lungs prevented passage of blood through pulmonary vessels. Right side of heart overcharged with blood, and, being degenerated, could not discharge its contents. Post-mortem: Heart feeble and flabby, with fatty degeneration. Liver firm, but whole of upper surface attached by old adhesions to under surface of diaphragm; air cells of lungs dilated; valves of heart healthy. Death also attributed to failure of heart's action and impairment of functions of diaphragm through its attachment to liver. Patient somewhat nervous, though quite cheerful before operation.

30.—Female. Incision of os uteri for dysmenorrhœa. On towel. Pulse and respiration failed simultaneously. Breathing and pulse failed, and patient could not be resuscitated.

31.—Male, aged 74. For cataract. ½ lb. used. Coughing, then lividity and cessation of breathing. Resuscitative measures taken, and respiration restored; lividity partly disappeared, and heart's action became stronger. Operation was concluded. Again respiration ceased, lividity increased, and pulse became very weak, death ensuing in spite of all efforts to prevent it.

32.—Male, aged 50. Examination for strangulated hernia. 1½ oz. used. Respiration failed first. Sudden spasmodic inspiratory sound heard, as if choking. Tongue drawn forward, but respiration had ceased, though pulse beat for another ½ minute. Silvester's method of artificial respiration employed, during which some fæcal matter came up into mouth. These efforts made for ¼ hour, but proved useless. Many circumstances predisposing death, besides administration of ether; strangulation had existed 4 days, with constant vomiting, and enfeebled circulation. Post-mortem: Heart, left ventricle contracted; otherwise healthy. Lungs congested. Fæcal staining of œsophagus and larynx, but no fæcal matter had entered lungs. Kidneys slightly granular.

33.—Male, aged 55. For injury to hip. Sulphuric ether used. Respiration failed first. After taking ether for 15 minutes patient, without warning, ceased to breathe. Artificial respiration used without success. Post-mortem: Effusion of serum beneath arachnoid, with thickening of that membrane. Valvular lesions of heart. Cystic degeneration of kidneys.

34.—Female. Extraction of tooth. Not quite 1 oz. used. "Paralysis of heart."

35.—Male, aged 66. Opening bowel in right lumbar region for obstruction (10 minutes). 1 oz. used in Clover's smaller inhaler. Patient showed inclination to vomit, and ejected quantity of brownish fluid, smelling strongly of brandy. Took one deep inspiration; seemed inclined to vomit again; sank back, and died. Artificial respiration and other means employed; result only one short gasp. No post-mortem. Much difficulty in ascertaining real cause of death. There was no obstruction to respiration by regurgitation of vomit into larynx. (1) Distension of bowel may have interfered with descent of diaphragm, and so hindered respiration; (2) Asthenia, owing to abdominal obstruction. Lungs having been emptied of air through vomiting, quantity of blood drawn into heart and vessels by next respiration may have brought feeble heart to standstill; (3) "Ether might have been mixed with vomit containing brandy, which would increase narcotising power, and increase cardiac depression." For some weeks had had symptoms which ended in complete obstruction of bowel, either in lower bowel of descending colon or in sigmoid flexure.

36.—Female, aged 43. Amputation for abscess in right thigh, with necrosis of femur. Ether on sponge, placed on towel formed into cone. Respiration failed first. An incision had been made down to the femur, when the respiration and pulse were noticed to have stopped. Artificial respiration, brandy per rectum, and nitrite of amyl, and carbonate of ammonia applied, partially restored respiration and pulse; but very shortly the pulse began to flicker, and then gradually failed. Artificial respiration, galvanism, and injection of 5 minims of ammonia into jugular vein also unsuccessfully tried. Post-mortem: The lungs were not materially affected, and the heart was normal. Her condition was bad. Broken down by continued suffering, emaciated, unable to take food, and frequently vomiting. The abscess followed delivery, and was associated with necrosis of part of the femur.

37.—Male, aged 53. Removal of large tumour on chest. 2½ oz. used in Clover's smaller inhaler. Pulse failed first. Livid pallor overspread face of patient; breathing undisturbed; but pulse became faint, and at last imperceptible. Brandy, lowering of head, &c., tried with no effect. Drew last breath 10 or 12 minutes after completion of operation. Syncope from surgical shock. ? Post-mortem. The operation had been severe.

38.—Male, aged 61. For strangulated inguinal hernia. Pulse failed first. Pulse became imperceptible, and finally respiration ceased. ? Syncope from shock. Post-mortem: Heart substance slightly fatty; cavities nearly empty; no clots. Lungs emphysematous, posterior parts gorged with blood. Had been delirious during preceding night. Pulse irregular, and very feeble, and he had constant vomiting.

39.—Male, aged 47. Lumbar colotomy for intestinal obstruction. Clover's smaller inhaler. After inhaling ether for 10 minutes became livid, and never rallied. Before taking anæsthetic was in state of profound collapse; belly tumid, respiration shallow, pulse feeble. ? Syncope from shock. Post-mortem 2 hours after death: Effects of former catarrhal pneumonia observed. Right side of heart dilated, containing post-mortem clots. Concentric hypertrophy of left ventricle which was contracted. Post-mortem clot. No fatty degeneration.

40.—Female, aged 26. For fibrous ankylosis of hip. 2–3 oz. used. Operation concluded, but patient did not rally from anæsthetic, and, in spite of stimulants, died 1½ hours after etherisation. ? Shock. Post-mortem appearances *nil*.

41.—Male, aged 55. Ruptured urethra. "Ether, pneumonia." Post-mortem made; details not given.

42.—Female, aged 6. Tracheotomy for diphtheria. 1 oz. on cage inhaler. Respiration failed first. Before operation was begun breathing suddenly ceased. Artificial respiration at once tried; patient gave one gasp; artificial respiration prolonged, but useless. Heart beat feebly 2 minutes after breathing failed. Failure of respiration, when respiratory powers already overtaxed by laryngeal diphtheria. Patient somewhat mentally deficient, and of delicate habit.

43.—Male, aged 45. Reduction of hernia (inguinal). Pulse and respiration failed together. Pulse and respiration suddenly ceased. Prompt and active efforts, but no return to vitality. Syncope. Post-mortem: Kidneys granular, contracted. Heart dilated, slight hypertrophy, little fluid clot. Pleura covering left lung thick. Capsules of liver and spleen thick and opaque.

44.—Female, aged 50. Removal of tumour from lower jaw. Respiration failed first. Patient's breathing became embarrassed; she seemed to suffer from shock consequent on operation. All usual means to restore life failed. Asphyxia; for at post-mortem, cancerous deposits found in liver and lungs, deposit in lung accounting for difficulty of respiration. Patient's condition as revealed by post-mortem not foreseen, or operation would not have been attempted.

45.—Male, aged 48. On middle finger of right hand. Respiration failed first. Before patient fully anæsthetised, he suddenly ceased to breathe. Artifical respiration used without avail. "Death from syncope" (verdict at inquest); but far more probable death commenced from lungs, and was caused by asphyxia. Patient, miller by trade, and emphysematous, and so easily affected by ether.

46.—Female, aged 50. Removal of sloughing fibroid polypus uteri (1 hour 25 min.). Respiration failed first. During operation, heart weak, and required brandy three or four times to rally its power. Five minutes after operation patient suddenly gasped, and ceased breathing, carotid pulse still beating firmly. Measures employed were artificial respiration and galvanism, also holding head downwards, but gush of blood from mouth and nose prevented this. Amyl nitrite to nose, and three drops of solution of nitro-glycerine (1 per cent.); heart ceased about 1 minute after respiration, artificial respiration for 15 minutes, but no signs of life. No signs of asphyxia, face being pallid, lips blanched and jugulars not over distended. Syncope most probable cause, though respiration ceased first. Patient was suffering from blood-poisoning due to absorption of septic products from decomposing polypus. Although much exhausted, and suffering from mitral valvular disease, it was thought right to give chance of recovery afforded by operation.

47.—Male, aged 53. For crush of right hand, compound fracture of fore-arm, simple fracture of humerus, and fracture of third rib. Respiration failed first. Took anæsthetic badly, breathing feebly and struggling. When operation nearly completed, breathing suddenly ceased. After artificial respiration for 15 minutes, patient began to breathe, and feeble femoral pulse could be felt, but this soon ceased. ? Syncope or shock. Post-mortem: All organs healthy, except that right kidney contained a cyst, and that there was a "small black mass" inside pericardium at root of aorta. The severe accident a great shock to the central nervous system. Patient could hardly be said to be healthy, though his organs showed no gross disease.